STUDIES

IN THE

PSYCHOLOGY OF SEX

BY

HAVELOCK ELLIS

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THE PHENOMENA OF SEXUAL PERIODICITY
AUTO-EROTISM

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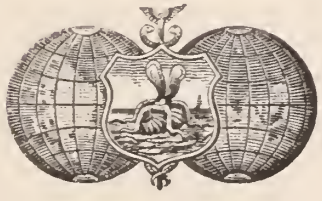
HAVELOCK ELLIS



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PREFACE.

The present volume contains three studies which seem to me to be necessary *prolegomena* to that analysis of the sexual instinct which must form the chief part of an investigation into the psychology of sex. The first sketches the main outlines of a complex emotional state which is of fundamental importance in sexual psychology; the second, by bringing together evidence from widely different regions, suggests a tentative explanation of facts that are still imperfectly known; the third attempts to show that even in fields where we assume our knowledge to be adequate a broader view of the phenomena teaches us to suspend judgment and to adopt a more cautious attitude. So far as they go, these studies are complete in themselves; their special use, as an introduction to a more comprehensive analysis of sexual phenomena, is that they bring before us, under varying aspects, a characteristic which, though often ignored, is of the first importance in obtaining a clear understanding of the facts: the tendency of the sexual impulse to appear in a spontaneous and to some extent periodic manner, affecting women differently from men. This is a tendency which, later, I hope to make still more apparent, for it has practical and social, as well as psychological, implications. Here—and more especially in the study of those spontaneous solitary manifestations which I call autoerotic—I have attempted to clear the ground, and to indicate the main lines along which the progress of our knowledge in these fields may best be attained.

It may surprise many medical readers that in the third and longest study I have said little, save incidentally, either of treatment or prevention. The omission of such considerations at this stage is intentional. It may safely be said that in no other field of human activity is so vast an amount of strenuous didactic moral-

ity founded on so slender a basis of facts. In most other departments of life we at least make a pretence of learning before we presume to teach: in the field of sex we content ourselves with the smallest and vaguest minimum of information, often ostentatiously second-hand, usually unreliable. I wish to emphasize the fact that before we can safely talk either of curing or preventing these manifestations we must know a great deal more than we know at present regarding their distribution, etiology, and symptomatology: and we must exercise the same coolness and caution as—if our work is to be fruitful—we require in any other field of serious study. We must approach these facts as physicians, it is true, but also as psychologists, primarily concerned to find out the workings of such manifestations in fairly healthy and normal people. If we found a divorce-court judge writing a treatise on marriage we should smile. But it is equally absurd for the physician, so long as his knowledge is confined to disease, to write regarding sex at large: valuable as the facts he brings forward may be, he can never be in a position to generalize concerning them. And to me, at all events, it seems that we have had more than enough pictures of gross sexual perversity, whether furnished by the asylum or the brothel. They are only really instructive when they are seen in their proper perspective as the rare and ultimate extremes of a chain of phenomena which we may more profitably study nearer home.

Yet, although we are, on every hand, surrounded by the normal manifestations of sex, conscious or unconscious, these manifestations are extremely difficult to observe, and, in those cases in which we are best able to observe them, it frequently happens that we are unable to make any use of our knowledge. Moreover, even when we have obtained our data, the difficulties—at all events, for an English investigator—are by no means overcome. He may take for granted that any serious and precise study of the sexual instinct will not meet with general approval; his work will be misunderstood; his motives will be called in question; among those for whom he is chiefly working he will find indifference. Indeed, the pioneer in this field may well count himself happy if he meets with nothing worse than indif-

ference. Hence it is that the present volume will not be published in England, but that, availing myself of the generous sympathy with which my work has been received in America, I have sought the wider medical and scientific audience of the United States. In matters of faith, "liberty of prophesying" was centuries since eloquently vindicated for Englishmen: the liberty of investigating facts is still called in question, under one pretence or another, and to seek out the most vital facts of life is still in England a perilous task.

I desire most heartily to thank the numerous friends and correspondents, some living in remote parts of the world, who have freely assisted me in my work with valuable information and personal histories. To Mr. F. H. Perry-Coste I owe an appendix which is by far the most elaborate attempt yet made to find evidence of periodicity in the spontaneous sexual manifestations of sleep; my debts to various medical and other correspondents are duly stated in the text. To many women friends and correspondents I may here express my gratitude for the manner in which they have furnished me with intimate personal records, and for the cross-examination to which they have allowed me to subject them. I may already say here, what I shall have occasion to say more emphatically in subsequent volumes, that without the assistance I have received from women of fine intelligence and high character my work would be impossible. I regret that I cannot make my thanks more specific.

Havelock Ellis.

Carbis Water,
Lelant, Cornwall, England.

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Modesty,—which may be provisionally defined as an almost instinctive fear prompting to concealment, and usually centering around the sexual processes,—while common to both sexes, is more peculiarly feminine, so that it may almost be regarded as the chief secondary sexual character of women on the psychical side. The woman who is lacking in this kind of fear is lacking, also, in sexual attractiveness to the normal and average man. The apparent exceptions seem to prove the rule, for it will generally be found that the women who are, not immodest (for immodesty is more closely related to modesty than mere negative absence of the sense of modesty), but without that fear which implies the presence of a complex emotional feminine organization to defend, only make a strong sexual appeal to men who are themselves lacking in the complementary masculine qualities. As a psychical secondary sexual character of the first rank, it is necessary before any psychology of sex can be arranged in order, to obtain a clear view of modesty.

The immense importance of feminine modesty in creating masculine passion must be fairly obvious. I may, however, quote the observa-

tions of two writers who have shown evidence of insight and knowledge regarding this matter.

Casanova describes how, when at Berne, he went to the baths, and was, according to custom, attended by a young girl, whom he selected from a group of bath attendants. She undressed him, proceeded to undress herself, and then entered the bath with him, and rubbed him thoroughly all over, the operation being performed in the most serious manner and without a word's being spoken. When all was over, however, he perceived that the girl had expected him to make advances, and he thus proceeds to moralize on his own feelings of indifference under such circumstance. "Though without gazing on the girl's figure, I had seen enough to recognize that she had all that a man can desire to find in a woman: a beautiful face, lively and well-formed eyes, a beautiful mouth with good teeth, a healthy complexion, well-developed breasts, and everything in harmony. It is true that I had felt that her hands could have been smoother, but I could only attribute this to hard work; moreover, my Swiss girl was only eighteen, and yet I remained entirely cold. What was the cause of this? That was the question that I asked myself. It was, perhaps, because she was too near to nature, because she had not those graces, that coquetry, those pretty little grimacing airs that women employ with so much art to seduce us. But do we then only love artifices and falsehood? Perhaps also we need, in order to irritate our senses, to define charms through the veil of modesty. But if in our manner of clothing, the face, which is open to every one, is that which is least important to our entire satisfaction, why is it that the face plays the principal part, why is it that by the face we fall in love, why by its testimony alone do we judge the beauty of a woman, and why do we forgive her when the parts which she conceals are not in harmony with her pretty face? Would it not be more natural, and, especially, more reasonable, and more advantageous, to cover the face, and to leave the rest of the body uncovered? In this way, when we fall in love we need only desire a physiognomy which corresponds to the charms that have attracted us. No doubt, that would be preferable, for we should only be seduced then by perfect beauty, and we should easily forgive when, on the mask's being raised, we found an ugly face where we expected to find a beautiful one. It would then happen that an ugly woman, happy to seduce by the beauty of her figure, would be the only one who would never consent to unveil, while the beautiful ones would not need begging to show their faces. The ugly ones would not cause us to sigh long. They would be *facile* in order not to be forced to show themselves, and, if they consented to unmask, it would only be after having convinced us by enjoyment that man can be happy without the beauty of the face. It is, besides, evident that inconstancy in love only exists on account of the diversity of faces. If one never

saw them, one would be always constant to, and even in love with, the first woman that one fell in love with. I know that all this reasoning will be called mad by many madmen, but I shall not be there to answer them." ("Mémoires," edition Garnier, vol. iv, pp. 393-94.)

"It is clear," wrote Stendhal, "that three parts of modesty are taught. This is, perhaps, the only law born of civilization which produces nothing but happiness. It has been observed that birds of prey hide themselves to drink, because, being obliged to plunge their heads in the water, they are at that moment defenceless. After having considered what passes at Otaheite, I can see no other natural foundation for modesty. Love is the miracle of civilization. Among savage and very barbarous races we find nothing but physical love of a gross character. It is modesty that gives to love the aid of imagination, and in so doing imparts life to it. Modesty is very early taught to little girls by their mothers, and with extreme jealousy, one might say, by *esprit de corps*. They are watching in advance over the happiness of the future lover. To a timid and tender woman there ought to be no greater torture than to allow herself in the presence of a man something which she thinks she ought to blush at. I am convinced that a proud woman would prefer a thousand deaths. A slight liberty taken on the tender side by the man she loves gives a woman a moment of keen pleasure, but if he has the air of blaming her for it, or only of not enjoying it with transport, an awful doubt must be left in her mind. For a woman above the vulgar level there is, then, everything to gain by very reserved manners. The play is not equal. She hazards against a slight pleasure, or against the advantage of appearing a little amiable, the danger of biting remorse, and a feeling of shame which must render even the lover less dear. An evening passed gaily and thoughtlessly, without thinking of what comes after, is dearly paid at this price. The sight of a lover with whom one fears that one has had this kind of wrong must become odious for several days. Can one be surprised at the force of a habit, the slightest infractions of which are punished with such atrocious shame? As to the utility of modesty, it is the mother of love. As to the mechanism of the feeling, nothing is simpler. The mind is absorbed in feeling shame instead of being occupied with desire. Desires are forbidden, and desires lead to actions. It is evident that every tender and proud woman—and these two things, being cause and effect, naturally go together—must contract habits of coldness which the people whom she disconcerts call prudery. The power of modesty is so great that a tender woman betrays herself with her lover rather by deeds than by words. The evil of modesty is that it constantly leads to falsehood." (Stendhal, "De l'Amour," Chapter XXVI.)

An interesting testimony to the part played by modesty in effecting the union of the sexes is furnished by the fact—to which attention

has often been called—that the special modesty of women usually tends to disappear with the complete gratification of the sexual impulses. This may be noted among savage as well as among civilized women. Viazzi ("Pudore nell 'uomo e nella donna," *Revista Mensile di Psichiatria Forense*, 1898), indeed, following Sergi, argues that men are, throughout, more modest than women; but the points he brings forward, though often just, scarcely justify his conclusion. While the young virgin, however, is more modest and shy than the young man of the same age, the experienced married woman is usually less so than her husband. She has put off a sexual livery that has no longer any part to play in life, and would, indeed, be inconvenient and harmful, just as a bird loses its sexual plumage when the pairing season is over.[1]

Madame Celine Renooz, in a recent elaborate study of the psychological sexual differences between men and women ("Psychologie Comparée de l'Homme et de la Femme," 1898, pp. 85-87), also believes that modesty is not really a feminine characteristic. "Modesty," she argues, "is masculine shame attributed to women for two reasons: first, because man believes that woman is subject to the same laws as himself: secondly, because the course of human evolution has reversed the psychology of the sexes, attributing to women the psychological results of masculine sexuality. This is the origin of the conventional lies which by a sort of social suggestion have intimidated women. They have, in appearance at least, accepted the rule of shame imposed on them by men, but only custom inspires the modesty for which they are praised; it is really an outrage to their sex. This reversal of psychological laws has, however, only been accepted by women with a struggle. Primitive woman, proud of her womanhood, for a long time defended her nakedness which ancient art has always represented. And in the actual life of the young girl to-day there is a moment when, by a secret atavism she feels the pride of her sex, the intuition of her moral superiority, and cannot understand why she must hide its cause. At this moment, wavering between the laws of Nature and social conventions, she scarcely knows if nakedness should or should not affright her. A sort of confused atavistic memory recalls to her a period before clothing was known, and reveals to her as a paradisiacal ideal the customs of that human epoch."

In support of this view the authoress proceeds to point out that the *décolleté* constantly reappears in feminine clothing, never in male; that missionaries experience great difficulty in persuading women to

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[1] This comparatively evanescent character of modesty has led to the argument (Venturi, "Degenerazioni Psico-sessuali," pp. 92-93) that modesty (*pudore*) is possessed by women alone, men exhibiting, instead, a sense of decency which remains at about the same level of persistency throughout life.

cover themselves; that, while women accept with facility an examination by male doctors, men cannot force themselves to accept examination by a woman doctor, etc. (These and similar points had already been independently brought forward by Sergi, *Archivio di Psichiatria*, vol. xiii, 1892.)

It cannot be said that Madame Renooz's arguments will all bear examination, but the point of view which she expresses is one which usually fails to gain recognition, though it probably contains an important element of truth. At the same time it only reveals one thread in the tangled skein with which we are here concerned. The mass of facts which meets us when we turn to the study of modesty in women cannot be dismissed as a group of artificially-imposed customs. They gain rather than lose in importance if we have to realize that the organic sexual demands of women, calling for coyness in courtship, lead to the temporary suppression of another feminine instinct of opposite, though doubtless allied, nature.

The significance of such an inquiry becomes greater when we reflect that to the reticences of sexual modesty, in their progression, expansion, and complication, we largely owe, not only the refinement and development of the sexual emotions,—"*la pudeur*," as Guyau remarked, "*a civilisé l'amour*,"—but the subtle and pervading part which the sexual instinct has played in the evolution of all human culture.[1]

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[1] "It is hard to find all the causes of modesty and shame," remark Stanley Hall and Allin, "but it is certain that very much of what is best in religion, art, and life owes its charm to the progressively-widening irradiation of sexual feeling. Perhaps the reluctance of the female first long-circuited the exquisite sensations connected with sexual organs and acts to the antics of animal and human courtship, while restraint had the physiological function of developing the colors, plumes, excessive activity, and exuberant life of the pairing season. To keep certain parts of the body covered irradiated the sense of beauty to eyes, hair, face, complexion, dress, form, etc., while many savage dances, costumes, and postures are irradiations of the sexual act. Thus reticence, concealment, and restraint are among the prime conditions of religion and human culture." (Stanley Hall and Allin, "The Psychology of Tickling," American Journal of Psychology, p. 31, 1897.)

Groos attributes the deepening of the conjugal relation among birds to the circumstance that the male seeks to overcome the reticence of the female by the display of his charms and abilities. "And in the human world," he continues, "it is the same; without the modest reserve of the woman that must, in most cases, be overcome by lovable qualities, the sexual relationship would with difficulty find a singer who would extol in love the highest movements of the human soul." (Groos, "Spiele der Menschen," p. 341.)

I have not, however, been able to find that the subject of modesty has been treated in any comprehensive way by psychologists. Though valuable facts and suggestions bearing on the sexual emotions, on disgust, the origins of tattooing, on ornament and clothing, have been brought forward by physiologists, psychologists, and ethnographists, few or no attempts appear to have been made to reach a general synthetic statement of these facts and suggestions. It is true that a great many unreliable, slight, or fragmentary efforts have been made to ascertain the constitution or basis of this emotion. Many psychologists, including Sergi, have regarded modesty simply as the result of clothing.[1] This view is overturned by the well-ascertained fact that many races which go absolutely naked possess a highly-developed sense of modesty. These writers have not realized that physiological modesty is earlier in appearance, and more fundamental, than anatomical modesty. A partial contribution to the analysis of modesty has been made by Professor James, who, with his usual insight and lucidity, has set forth certain of its characteristics, especially the element due to "the application to ourselves of judgments primarily passed upon our mates." Westermarck, again, followed by Grosse, has very ably and convincingly set forth certain factors in the origin of ornament and clothing, a subject which many writers imagine to cover the whole field of modesty. More recently Ribot, in his work on the emotions, has vaguely outlined most of the factors of modesty, but has not developed a coherent view of their origins and relationships. The subject is, indeed, complicated by the difficulty of excluding closely-allied emotions—shame, shyness, bashfulness, timidity, etc.—all of which, indeed, however defined, adjoin or overlap modesty.[2] It is not, however, impossible to isolate the main body of the emotion of modesty, on account of

[1] More recently, however, Sergi has emphasized the coincidence of the sexual with the excreting centres as leading to a fear of causing disgust, "Dolore e Piacere," 1894, pp. 209-212.

[2] Timidity, as understood by Dugas in his interesting essay on that subject, is probably most remote. Dr. H. Campbell's "morbid shyness" (British Medical Journal, September 26, 1896), is, in part, identical with timidity, in part with modesty. The matter is further complicated by the fact that modesty itself has in English (like virtue) two distinct

its special connection, on the whole, with the consciousness of sex. I here attempt, however imperfectly, to sketch out a fairly-complete analysis of its constitution and to trace its development.

In entering upon this investigation a few facts with regard to the various manifestations of modesty may be helpful to us. I have selected these from scattered original sources, and have sought to bring out the variety and complexity of the problems with which we are here concerned.

The New Georgians of the Solomon Islands, so low a race that they are ignorant both of pottery and weaving and wear only a loin cloth, "have the same ideas of what is decent with regard to certain acts and exposures that we ourselves have"; so that it is difficult to observe whether they practice circumcision. (Somerville, *Journal of the Anthropological Institute*, p. 394, 1897.)

The semi-nude natives of the island of Nias in the Indian Ocean are "modest by nature," paying no attention to their own nudity or that of others, and much scandalized by any attempt to go beyond the limits ordained by custom. When they pass near places where women are bathing they raise their voices in order to warn them of their presence, and even although any bold youth addressed the women, and the latter replied, no attempt would be made to approach them; any such attempt would be severely punished by the head man of the village. (Modigliani, "Un Viaggio a Nias," p. 460.)

Man says that the Andamanese in modesty and self-respect compare favorably with many classes among civilized peoples. "Women are so modest that they will not renew their leaf-aprons in the presence of one another, but retire to a secluded spot for this purpose; even when parting with one of their *bod* appendages [tails of leaves suspended from back of girdle] to a female friend the delicacy they manifest for the feelings of the by-standers in their mode of removing it amounts to prudishness; yet they wear no clothing in the ordinary sense." (*Journal of the Anthropological Institute*, pp. 94 and 331, 1883.)

In Australia "the feeling of decency is decidedly less prevalent among males than females"; the clothed females retire out of sight to bathe. (Curr, "Australian Race.")

"Except for waist-bands, forehead-bands, necklets, and armlets, and

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meanings. In its original form it has no special connection with sex or women, but may rather be considered as a masculine virtue. Cicero regards "modestia" as the equivalent of the Greek λωφρδύνη. This is the "modesty" which Mary Wollstonecraft eulogized in the last century, the outcome of knowledge and reflection, "soberness of mind," "the graceful calm virtue of maturity." In French it is possible to avoid the confusion, and *modestie* is entirely distinct from *pudeur*. It is, of course, mainly with *pudeur* that I am here concerned.

a conventional pubic tassel, shell, or, in the case of the women, a small apron, the Central Australian native is naked. The pubic tassel is a diminutive structure about the size of a five-shilling piece made of a few short strands of fur-strings flattened out into a fan-shape and attached to the pubic hair. As the string, especially at *corrobboree* times, is covered with white kaolin or gypsum, it serves as a decoration rather than a covering. Among the Arunta and Luritcha the women usually wear nothing, but further north a small apron is made and worn." (Baldwin Spencer and Gillen, "Native Tribes of Central Australia," p. 572.)

Of the Central Australians Stirling says: "No sense of shame of exposure was exhibited by the men on removal of the diminutive articles worn as conventional coverings; they were taken off *coram populo*, and bartered without hesitation. On the other hand, some little persuasion was necessary to allow inspection of the effect of [urethral] sub-incision, assent being given only after dismissal to a distance of the women and young children. As to the women, it was nearly always observed that when in camp without clothing they, especially the younger ones, exhibited by their attitude a keen sense of modesty, if, indeed, a consciousness of their nakedness can be thus considered. When we desired to take a photograph of a group of young women, they were very coy at the proposal to remove their scanty garments, and retired behind a wall to do so; but once in a state of nudity they made no objection to exposure to the camera." ("Report of the Horn Scientific Expedition," 1896, vol. iv, p. 37.)

In Northern-Queensland "phallocrypts," or "penis-concealers," only used by the males at *corrobborees* and other public rejoicings, are either formed of pearl-shell or opossum-string. The *koom-pa-ra*, or opossum-string form of phallocrypt, forms a kind of tassel, and is colored red; it is hung from the waist-belt in the middle line. In both sexes the privates are only covered on special public occasions or when in close proximity to white settlements. (Walter Roth, "Ethnological Studies among the Northwest-Central-Queensland Aborigines," 1897, pp. 114-115.)

Among the western tribes of Torres Straits, Haddon remarks, the men are naked, the women wear a tuft of grass or split pandanus-leaves in front, and passed between the thighs to be fastened to another piece behind, and sometimes, especially for dancing, a short petticoat of shred pandanus-leaves over this. (*Journal of the Anthropological Institute*, pp. 368, 431, 1890.)

The Papuans of King Wilhelm's Land must not be seen during coitus; anyone so seen is regarded as imbecile or mad, a special word being used for this madness. (Schellong, *Zeitschrift für Ethnologie*, H. 1, p. 18, 1889.)

In the New Hebrides "the closest secrecy is adopted with regard to the penis, not at all from a sense of decency, but to avoid Narak, the *sight* even of that of another man being considered most dangerous. The natives of this savage island, accordingly, wrap the penis around with many yards of calico, and other like materials, winding and folding them until a preposterous bundle 18 inches or 2 feet long and 2 inches or more in diameter is formed, which is then supported upward by means of a belt, in the extremity decorated with flowering grasses, etc. The testicles are left naked." There is no other body covering. (Somerville, *Journal of the Anthropological Institute*, p. 368, 1894.)

In the Pelew Islands, says Kubary, as quoted by Bastian, it is said that when the God Irakaderugel and his wife were creating man and woman (he forming man and she forming woman), and were at work on the sexual organs, the god wished to see his consort's handiwork. She, however, was cross, and persisted in concealing what she had made. Ever since then women wear an apron of pandanus-leaves and men go naked. (A. Bastian, "Inselgruppen in Oceanien," p. 112.)

The Maoris, whose cold climate encouraged them to clothe abundantly, saw nothing to be condemned when the girls in public removed their garments in order to swim. The men always stripped naked for work or for fighting. (A. Sutherland, "Moral Instinct," vol. i, p. 206.)

In Rotuma, in Polynesia, where the women enjoy much freedom, but where, at all events in old days, married people were, as a rule, faithful to each other, "the language is not chaste according to our ideas, and there is a great deal of freedom in speaking of immoral vices. In this connection a man and his wife will speak freely to one another before their friends, and perhaps indulge in a little chaff. I am informed, though, by European traders well conversant with the language, that there are grades of language, and that certain coarse phrases would never be used to any decent woman; so that probably, in their way, they have much modesty, only we cannot appreciate it." (J. Stanley Gardiner, "The Natives of Rotuma," *Journal of the Anthropological Institute*, May, 1898, p. 481.)

In Queensland, also, Roth remarks (*op. cit.*, p. 184), there is both a decent and an indecent vocabulary: while one word for vulva can be used in the best aboriginal society, another, meaning the same part, is considered most offensive.

The men of Rotuma, says the same writer, are very clean, the women also, bathing twice a day in the sea; but "bathing in public without the *kukuluga*, or *sulu* [loin-cloth, which is the ordinary dress], around the waist is absolutely unheard of, and would be much looked down upon." (*Journal of the Anthropological Institute*, p. 410, 1898.)

At Tahiti, which was one of the chief centres of Polynesian culture, nakedness was almost a religious cult. There was a nude funeral dance

and a nude wedding-dance. On the wedding-day, also, the marriage was consummated in the presence of the public. (Tautain, "Ethnographie des Iles Marquises." *L'Anthropologie*, p. 546, 1896.)

In ancient Samoa the only necessary garment for either man or woman was an apron of leaves, but they possessed so "delicate a sense of propriety" that even "while bathing they have a girdle of leaves or some other covering around the waist." (Turner, "Samoa a Hundred Years Ago," p. 121.)

After babyhood the Indians of Guiana are never seen naked. When they change their single garment they retire. The women wear a little apron, now generally made of European beads, but the Warraus still make it of the inner bark of a tree, and some of seeds. (Everard im Thurn, "Among the Indians of Guiana," 1883.)

The Indians of Central Brazil have no "private parts." In men the little girdle, or string, surrounding the lower part of the abdomen, hides nothing; it is worn after puberty, the penis being often raised and placed beneath it to lengthen the prepuce. The women also use a little strip of bast that goes down the groin and passes between the thighs. Among some tribes (Karibs, Tupis, Nu-Arwaks) a little, triangular, coquettishly-made piece of bark-bast comes just below the mons veneris; it is only a few centimetres in width, and is called the *aluri*. *In both sexes concealment of the sexual mucous membrane is attained.* These articles cannot be called clothing. "The red thread of the Trumai, the elegant *aluri*, and the variegated flag of the Bororó attract attention, like ornaments, instead of drawing attention away." Von den Steinen thinks this proceeding a necessary protection against the attacks of insects, which are often serious in Brazil. He does think, however, that there is more than this, and that the people are ashamed to show the glans penis. (Karl von den Steinen, "Unter den Naturvölkern Zentral-Brasiliens." Berlin, 1894, pp. 190 *et seq.*)

Other travelers mention that on the Amazon among some tribes the women are clothed and the men naked; among others the women naked and the men clothed. Thus, among the Guaycurus the men are quite naked, while the women wear a short petticoat; among the Uaupás the men wear a loin-cloth, while the women are quite naked.

"The feeling of modesty is very developed among the Fuegians, who are accustomed to live naked. They manifest it in their bearing and in the ease with which they show themselves in a state of nudity, compared with the awkwardness, blushing, and shame which both men and women exhibit if one gazes at certain parts of their bodies. Among themselves this is never done even between husband and wife. There is no Fuegian word for modesty, perhaps because the feeling is universal among them." The women wear a minute triangular garment of skin suspended between the thighs and never removed, being merely raised

during conjugal relations. (Hyades and Deniker, "Mission Scientifique on Cap Horn," vol. vii, pp. 239 and 347.)

Among the Crow Indians of Montana, writes Dr. Holder, who has lived with them for several years, "a sense of modesty forbids the attendance upon the female in labor of any male, white man or Indian, physician or layman. This antipathy to receiving assistance at the hands of the physician is overcome as the tribes progress toward civilization, and it is especially noticeable that half-breeds almost constantly seek the physician's aid." Dr. Holder mentions the case of a young woman who, although brought near the verge of death in a very difficult first confinement, repeatedly refused to allow him to examine her; at last she consented; "her modest preparation was to take bits of quilt and cover thighs and lips of vulva, leaving only the aperture exposed. . . . Their modesty would not be so striking were it not that, almost to a woman, the females of this tribe are prostitutes, and for a consideration will admit the connection of any man." (A. B. Holder, *American Journal of Obstetrics*, vol. xxv, No. 6, 1892.)

"In every North American tribe, from the most northern to the most southern, the skirt of the woman is longer than that of the men. In Esquimau land the *parka* of deerskin and sealskin reaches to the knees. Throughout Central North America the buckskin dress of the women reached quite to the ankles. The West-Coast women, from Oregon to the Gulf of California, wore a petticoat of shredded bark, of plaited grass, or of strings, upon which were strung hundreds of seeds. Even in the most tropical areas the rule was universal, as anyone can see from the codices or in pictures of the natives." (Otis T. Mason, "Woman's Share in Primitive Culture," p. 237.)

Describing the loin-cloth worn by Nicobarese men, Man says: "From the clumsy mode in which this garment is worn by the Shom Pen—necessitating frequent readjustment of the folds—one is led to infer that its use is not *de rigueur*, but reserved for special occasions, as when receiving or visiting strangers." (E. H. Man, *Journal of the Anthropological Institute*, p. 442, 1886.)

Of the Garo women of Bengal Dalton says: "Their sole garment is a piece of cloth less than a foot in width that just meets around the loins, and in order that it may not restrain the limbs it is only fastened where it meets under the hip at the upper corners. The girls are thus greatly restricted in the positions they may modestly assume, but decorum is, in their opinion, sufficiently preserved if they only keep their legs well together when they sit or kneel." (E. T. Dalton, "Ethnology of Bengal," 1872, p. 66.)

Of the Naga women of Assam it is said: "Of clothing there was not much to see; but in spite of this I doubt whether we could excel them in true decency and modesty. Ibn Muhammed Wali had already

remarked in his history of the conquest of Assam (1662-63), that the Naga women only cover their breasts. They declare that it is absurd to cover those parts of the body which everyone has been able to see from their births, but that it is different with the breasts, which appeared later, and are, therefore, to be covered. Dalton (*Journal of the Asiatic Society*, Bengal, 41, 1, 84) adds that in the presence of strangers Naga women simply cross their arms over their breasts, without caring much what other charms they may reveal to the observer. As regards some clans of the naked Nagas, to whom the Banpara belong, this may still hold good." (K. Klemm, "Peal's Ausflug nach Banpara." *Zeitschrift für Ethnologie*, H. 5, p. 334, 1898.)

Mrs. French-Sheldon remarks that the Masai and other East African tribes, with regard to menstruation, "observe the greatest delicacy, and are more than modest." (*Journal of the Anthropological Institute*, p. 383, 1894.)

At the same time the Masai, among whom the penis is of enormous size, consider it disreputable to conceal that member, and in the highest degree reputable to display it, even ostentatiously. (Sir H. H. Johnston, "Kilima-njaro Expedition," p. 413.)

Among the African Dinka, who are scrupulously clean and delicate (smearing themselves with burnt cows' dung, and washing themselves daily with cows' urine), and are exquisite cooks, reaching in many respects a higher stage of civilization, in Schweinfurth's opinion, than is elsewhere attained in Africa, only the women wear aprons. The neighboring tribes of the red soil—Bongo, Mittoo, Niam-Niam, etc.—are called "women" by the Dinka, because among these tribes the men wear an apron, while the women obstinately refuse to wear any clothes whatsoever of skin or stuff, going into the woods every day, however, to get a supple bough for a girdle, with, perhaps, a bundle of fine grass. (Schweinfurth, "Heart of Africa," vol. i, pp. 152, etc.)

Lombroso and Carrara, examining some Dinka negroes brought from the White Nile, remark: "As to their psychology, what struck us first of all was the exaggeration of their modesty; not in a single case would the men allow us to examine their genital organs or the women their breasts; we examined the tattoo-marks on the chest of one of the women, and she remained sad and irritable for two days afterward." They add that in sexual and all other respects these people are highly moral. (Lombroso and Carrara, *Archivio di Psichiatria*, vol. xvii, fasc. 4, 1896.)

"The negro is very rarely knowingly indecent or addicted to lubricity," says Sir H. H. Johnston. "In this land of nudity, which I have known for seven years, I do not remember once having seen an indecent gesture on the part of either man or woman, and only very rarely (and that not among unspoiled savages) in the case of that most

shameless member of the community—the little boy." He adds that the native dances are only an apparent exception, being serious in character, though indecent to our eyes, almost constituting a religious ceremony. The only really indecent dance indigenous to Central Africa "is one which originally represented the act of coition, but it is so altered to a stereotyped formula that its exact purport is not obvious until explained somewhat shyly by the natives. . . . It may safely be asserted that the negro race in Central Africa is much more truly modest, is much more free from real vice, than are most European nations. Neither boys nor girls wear clothing (unless they are the children of chiefs) until nearing the age of puberty. Among the Wankonda, practically no covering is worn by the men except a ring of brass wire around the stomach. The Wankonda women are likewise almost entirely naked, but generally cover the pudenda with a tiny bead-work apron, often a piece of very beautiful workmanship, and exactly resembling the same article worn by Kaffir women. A like degree of nudity prevails among many of the Awemba, among the A-lungu, the Batumbuka, and the Angoni. Most of the Angoni men, however, adopt the Zulu fashion of covering the *glans penis* with a small wooden case or the outer shell of a fruit. The Wa-Yao have a strong sense of decency in matters of this kind, which is the more curious since they are more given to obscenity in their rites, ceremonies, and dances than any other tribe. Not only is it extremely rare to see any Yao uncovered, but both men and women have the strongest dislike to exposing their persons even to the inspection of a doctor. The Atonga and many of the A-nyanga people, and all the tribes west of Nyassa (with the exception possibly of the A-lunda) have not the Yao regard for decency, and, although they can seldom or ever be accused of a deliberate intention to expose themselves, the men are relatively indifferent as to whether their nakedness is or is not concealed, though the women are modest and careful in this respect." (H. H. Johnston, "British Central Africa," 1897, pp. 408-419.)

In Azimba Land, Central Africa, H. Crawford Angus, who has spent many years in this part of Africa, writes: "It has been my experience that the more naked the people and the more to us obscene and shameless their manners and customs, the more moral and strict they are in the matter of sexual intercourse." He proceeds to give a description of the *chensamwali*, or initiation ceremony of girls at puberty, a season of rejoicing when the girl is initiated into all the secrets of marriage, amid songs and dances referring to the act of coition. "The whole matter is looked upon as a matter of course, and not as a thing to be ashamed of or to hide, and, being thus openly treated of and no secrecy made about it, you find in this tribe that the women are very virtuous. They know from the first all that is to be known, and cannot see any reason for secrecy concerning natural laws

or the powers and senses that have been given them from birth." (*Zeitschrift für Ethnologie*, H. 6, p. 479, 1898.)

"The women at Upoto wear no clothes whatever, and came up to us in the most unreserved manner. An interesting gradation in the arrangement of the female costume has been observed by us: as we ascended the Congo, the higher up the river we found ourselves, the higher the dress reached, till it has now, at last, culminated in absolute nudity." (T. H. Parke, "My Personal Experiences in Equatorial Africa," 1891, p. 61.)

"There exists throughout the Congo population a marked appreciation of the sentiment of decency and shame as applied to private actions," says Mr. Herbert Ward. In explanation of the nudity of the women at Upoto, a chief remarked to Ward that "concealment is food for the inquisitive." (*Journal of the Anthropological Institute*, p. 293, 1895.)

In the Gold Coast and surrounding countries complete nudity is extremely rare except when circumstances make it desirable; on occasion clothing is abandoned with unconcern. "I have on several occasions," says Dr. Freeman, "seen women at Accra walk from the beach, where they have been bathing, across the road to their houses, where they would proceed to dry themselves, and resume their garments; and women may not infrequently be seen bathing in pools by the way-side, conversing quite unconstrainedly with their male acquaintances who are seated on the bank. The mere unclothed body conveys to their minds no idea of indecency. Immodesty and indelicacy of manner are practically unknown." He adds that the excessive zeal of missionaries in urging their converts to adopt European dress—which they are only too ready to do—is much to be regretted, since the close-fitting thin garments are really less modest than the loose clothes they replace, besides being much less cleanly. (R. A. Freeman, "Travels and Life in Ashanti and Jaman," 1898. p. 379.)

At Loango, says Pechuel-Loesche, "the well-bred negress likes to cover her bosom, and is sensitive to critical male eyes; if she meets a European when without her overgarment, she instinctively, though not without coquetry, takes the attitude of the Medicean Venus." Men and women bathe separately, and hide themselves from each other when naked. The women also exhibit shame when discovered suckling their babies. (*Zeitschrift für Ethnologie*, pp. 27-31. 1878.)

In Algeria,—in the provinces of Constantine, in Biskra, even Aures, —"among the women especially, not one is restrained by any modesty in unfastening her girdle to any corner" (when a search was being made for tattoo-marks on the lower extremities). "In spite of the great licentiousness of the manners," the same writer continues, "the Arab and the Kabyle possess great personal modesty, and with difficulty

are persuaded to exhibit the body nude; is it the result of real modesty or of their inveterate habits of active pederasty? Whatever the cause, they always hide the sexual organs with their hands or their handkerchiefs, and are disagreeably affected even by the slightest touch of the doctor." (Batut, *Archives d'Anthropologie Criminelle*, January 15, 1893.)

"Moslem modesty," remarks Wellhausen, "was carried to great lengths, insufficient clothing being forbidden. It was marked even among the heathen Arabs, as among Semites and old civilizations generally; we must not be deceived by the occasional examples of immodesty in individual cases. The Sunna prescribes that a man shall not uncover himself even to himself, and shall not wash naked—from fear of God and of spirits; Job did so, and atoned for it heavily. When in Arab antiquity grown-up persons showed themselves naked, it was only under extraordinary circumstances, and to attain unusual ends. . . . Women when mourning uncovered not only the face and bosom, but also tore all their garments. The messenger who brought bad news tore his garments. A mother desiring to bring pressure to bear on her son took off her clothes. A man to whom vengeance is forbidden showed his despair and disapproval by uncovering his posterior and strewing earth on his head, or by raising his garment behind and covering his head with it. This was done also in fulfilling natural necessities." (Wellhausen, "Reste Arabischen Heidentums," 1897, pp. 173, 195-96.)

Mantegazza mentions that a Lapland woman refused even for the sum of 150 francs to allow him to photograph her naked, though the men placed themselves before the camera in the costume of Adam for a much smaller sum. In the same book Mantegazza remarks that in the last century travelers found it extremely difficult to persuade Samoyed women to show themselves naked. Among the same people, he says, the newly-married wife must conceal her face from her husband for two months after marriage, and only then yield to his embraces. (Mantegazza, "La Donna," cap. iv.)

"The beauty of a Chinese woman," says Dr. Matignon, "resides largely in her foot. 'A foot which is not deformed is a dishonor,' says a poet. For the husband the foot is more interesting than the face. Only the husband may see his wife's foot naked. A Chinese woman is as reticent in showing her feet to a man as a European woman her breasts. I have often had to treat Chinese women with ridiculously small feet for wounds and excoriations, the result of tight bandaging. They exhibited the prudishness of school-girls, blushed, turned their backs to unfasten the bandages, and then concealed the foot in a cloth, leaving only the affected part uncovered. Modesty is a question of convention; Chinese have it for their feet." (J. Matignon, "A propos d'un Pied de Chinoise," *Archives d'Anthropologie Criminelle*, p. 445, 1898.)

It must be added that Chinese women are said to be extremely reticent in showing any part of the body; but there is no doubt that the chief focus of modesty is in their feet. It is only with great difficulty, I am informed, that they can be persuaded to show their feet even to persons of their own sex, and in their pictures of naked women, regarded as most indecent, the feet are still surrounded by a little silk frill.

"In Japan (Captain ——— tells me) the bathing-place of the women was perfectly open (the shampooing, indeed, was done by a man), and Englishmen were offered no obstacle nor excited the least repugnance; indeed, girls after their bath would freely pass, sometimes as if holding out their hair for innocent admiration, and this continued until countrymen of ours by vile laughter and jests made them guard themselves from insult by secrecy. So corruption spreads and heathenism is blacker by our contact." (Private communication.)

"Speaking once with a Japanese gentleman, I observed that we considered it an act of indecency for men and women to wash together. He shrugged his shoulders as he answered: 'But these Westerns have such prurient minds!'" (Mitford, "Tales of Old Japan," 1871.)

Dr. Carl Davidsohn, who remarks that he had ample opportunity of noting the great beauty of the Japanese women in national dances, performed naked, points out that the Japanese have no esthetic sense for the nude. "This was shown at the Jubilee Exhibition at Kyoto. Here, among many rooms full of art objects, one was devoted to oil pictures in the European manner. Among these only one represented a nude figure, a Psyche, or Truth. It was the first time such a picture had been seen. Men and women crowded around it. After they had gazed at it for a time most began to giggle and laugh; some by their air and gestures clearly showed their disgust; all found that it was not esthetic to paint a naked woman, though in Nature nakedness was in no way offensive to them. In the middle of the same city, at a fountain reputed to possess special virtues, men and women will stand together naked to let the water run over them." (Carl Davidsohn, "Das Nackte bei den Japanern," *Globus*, No. 16, 1896.)

"Among the Lydians, and, indeed, among the barbarians generally, it is considered a deep disgrace, even for a man, to be seen naked." (Herodotus, Book I, Chapter X.)

"The simple dress which is now common was first worn in Sparta, and there, more than anywhere else, the life of the rich was assimilated to that of the people. The Lacedæmonians, too, were the first who, in their athletic exercises, stripped naked and rubbed themselves over with oil. This was not the ancient custom; athletes formerly, even when they were contending at Olympia, wore girdles about their loins, a practice which lasted until quite lately, and still persists among bar-

barians, especially those of Asia, where the combatants at boxing and wrestling matches wear girdles." (Thucydides, "History," Book I, Chapter VI.)

"The notion of the women exercising naked in the schools with the men . . . at the present day would appear truly ridiculous. . . . Not long since it was thought discreditable and ridiculous among the Greeks, as it is now among most barbarous nations, for men to be seen naked. And when the Cretans first, and after them the Lacedæmonians, began the practice of gymnastic exercises, the wits of the time had it in their power to make sport of those novelties. . . . As for the man who laughs at the idea of undressed women going through gymnastic exercises, as a means of revealing what is most perfect, his ridicule is but 'unripe fruit plucked from the tree of wisdom.'" (Plato, "Republic," Book V.)

According to Plutarch, however, among the Spartans, at all events, nakedness in women was not ridiculous, since the institutes of Lycurgus ordained that at solemn feasts and sacrifices the young women should dance naked and sing, the young men standing around in a circle to see and hear them. Aristotle says that in his time Spartan girls only wore a very slight garment. As described by Pausanias, and as shown by a statue in the Vatican, the ordinary tunic, which was the sole garment worn by women when running, left bare the right shoulder and breast, and only reached to the upper third of the thighs. (M. M. Evans, "Chapters on Greek Dress," p. 34.)

Among the Greeks, who were inclined to accept the doctrines of Cynicism, it was held that, while shame is not unreasonable, what is good may be done and discussed before all men. There are a number of authorities who say that Crates and Hipparchia consummated their marriage in the presence of many spectators. Lactantius (Inst. iii, 15) says that the practice was common, but this Zeller is inclined to doubt. (Zeller, "Socrates and the Socratic Schools," translated from the Third German Edition, 1897.)

"Among the Tyrrhenians, who carry their luxury to an extraordinary pitch, Timæus in his first book relates that the female servants wait on the men in a state of nudity. And Theopompus, in the forty-third book of his 'History,' states that it is a law among the Tyrrhenians that all their women should be in common; and that the women pay the greatest attention to their persons, and often practice gymnastic exercises, naked, among the men, and sometimes with one another; for that it is not accounted shameful for them to be seen naked. . . . Nor is it reckoned among the Tyrrhenians at all disgraceful either to do or suffer anything in the open air, or to be seen while it is going on; for it is quite the custom of their country, and they are so far from thinking it disgraceful that they even say, when

the master of the house is indulging his appetite, and anyone asks for him, that he is doing so and so, using the coarsest possible words. . . . And they are very beautiful, as is natural for people to be who live delicately, and who take care of their persons." (Athenæus, "Deipnosophists," Bohn's translation, vol. iii, p. 830.)

Dennis throws doubt on the foregoing statement of Athenæus regarding the Tyrrhenians or Etruscans, and points out that the representations of women in Etruscan tombs show them as clothed, even the breast being rarely uncovered. Nudity, he remarks, was a Greek, not an Etruscan, characteristic. "To the nudity of the Spartan women I need but refer; that Thessalian women are described by Persæus dancing at banquets naked, or with a very scanty covering (*cf.* Athenæus, xiii, c. 86). The maidens of Chios wrestled naked with the youth in the gymnasium, which Athenæus (xiii, 20) pronounces to be 'a beautiful sight.' And at the marriage-feast of Caranus the Macedonian women tumblers performed naked before the guests (Athenæus, iv. 3)." (G. Dennis, "Cities and Cemeteries of Etruria," 1883, vol. i, p. 321.)

In the second century the physician Aretæus, writing at Rome, remarks: "In many cases, owing to involuntary restraint from modesty at assemblies, and at banquets, the bladder becomes distended, and from the consequent loss of its contractile power it no longer evacuates the urine." ("On the Causes and Symptoms of Acute Diseases," Book II, Chapter X.)

Apuleius, writing in the second century, says: "Most women, in order to exhibit their native gracefulness and allurements, divest themselves of all their garments and long to show their naked beauty, being conscious that they shall please more by the rosy redness of their skin than by the golden splendor of their robes." (Thomas Taylor's translation of "Metamorphosis," p. 28.)

Christianity seems to have profoundly affected habits of thought and feeling by uniting together the merely natural emotion of sexual reserve with, on the one hand, the masculine virtue of modesty—*modestia*—and, on the other, the prescription of sexual abstinence. Tertullian admirably illustrates this confusion, and his treatises "De Pudicitia" and "De Cultu Feminarum" are instructive from the present point of view. In the latter he remarks (Book II, Chapter I): "Salvation—and not of women only, but likewise of men—consists in the exhibition principally of modesty. Since we are all the temple of God, modesty is the sacristan and priestess of that temple, who is to suffer nothing unclean or profane to enter it, for fear that the God who inhabits it should be offended. . . . Most women, either from simple ignorance or from dissimulation, have the hardihood so to walk as if modesty consisted only in the integrity of the flesh and in turning away from fornication,

and there were no need for anything else,—in dress and ornament, the studied graces of form,—wearing in their gait the self-same appearance as the women of the nations from whom the sense of *true* modesty is absent."

The earliest Christian ideal of modesty, not long maintained, is well shown in an epistle which, there is some reason to suppose, was written by Clement of Rome. "And if we see it to be requisite to stand and pray for the sake of the woman, and to speak words of exhortation and edification, we call the brethren and all the holy sisters and maidens, likewise all the other women who are there, with all modesty and becoming behavior to come and feast on the truth. And those among us who are skilled in speaking speak to them, and exhort them in these words which God has given us. And then we pray, and salute one another, the men the men. But the women and the maidens will wrap their hands in their garments; we also, with circumspection and with all purity, our eyes looking upward, shall wrap our right hand in our garments; and then they will come and give us the salutation on our right hand wrapped in our garments. Then we go where God permits us." ("Two Epistles Concerning Virginity"; Second Epistle, Chapter III, vol. xiv. Ante-Nicene Christian Library, p. 384.)

"Women will scarce strip naked before their own husbands, affecting a plausible pretence of modesty," writes Clement of Alexandria, about the end of the second century, "but any others who wish may see them at home shut up in their own baths, for they are not ashamed to strip before spectators, as if exposing their persons for sale. The baths are opened promiscuously to men and women; and there they strip for licentious indulgence (for, from looking, men get to loving), as if their modesty had been washed away in the bath. Those who have not become utterly destitute of modesty shut out strangers, but bathe with their own servants, and strip naked before their slaves, and are rubbed by them, giving to the crouching menial liberty to lust, by permitting fearless handling, for those who are introduced before their naked mistresses while in the bath study to strip themselves in order to show audacity in lust, casting off fear in consequence of the wicked custom. The ancient athletes, ashamed to exhibit a man naked, preserved their modesty by going through the contest in drawers; but these women, divesting themselves of their modesty along with their chemise, wish to appear beautiful, but, contrary to their wish, are simply proved to be wicked." (Clement of Alexandria, "Pædagogus," Book III, Chapter V. For elucidations of this passage see Migne's "Patrologiæ Cursus Completus," vol. vii. It appears that Hadrian, Marcus Aurelius, and Severus endeavored to put a stop to promiscuous bathing. It was forbidden by the early Apostolical Constitutions, but Cyprian found it necessary to upbraid even virgins vowed to chastity for continuing the

custom. In Rudeck's "Geschichte der öffentlichen Sittlichkeit in Deutschland" an interesting chapter, with contemporary illustrations, is devoted to the custom of men and women bathing together naked, a custom preserved in Europe, at least to the end of the last century.)

"Women," says Clement again, "should not seek to be graceful by avoiding broad drinking vessels that oblige them to stretch their mouths, in order to drink from narrow alabastra that cause them indecently to throw back the head, revealing to men their necks and breasts. The mere thought of what she is ought to inspire a woman with modesty. . . . On no account must a woman be permitted to show to a man any portion of her body naked, for fear lest both fall: the one by gazing eagerly, the other by delighting to attract those eager glances." ("Pædagogus." Book II, Chapter V.)

In the Gnostic "Judas Thomas's Acts" we are told how a bride, a king's daughter, and her bridegroom were converted by an apparition of the Lord in the bridal chamber, and passed the night in continence. "And in the morning when it was dawn the king had the table furnished early and brought in before the bridegroom and bride. And he found them sitting the one opposite the other, and the face of the bride was uncovered, she was sitting, and the bridegroom was very cheerful. The mother of the bride saith to her: 'Why art thou sitting thus, and art not ashamed, but art as if, lo, thou wert married a long time, and for many a day?' And her father, too, said: 'Is it thy great love for thy husband that prevents thee from even veiling thyself?' And the bride answered and said: 'Truly, my father, I am in great love, and am praying to my Lord that I may continue in this love which I have experienced this night. I am not veiled, because the veil of corruption is taken from me, and I am not ashamed, because the deed of shame has been removed far from me.'" (Wright, "Apocryphal Acts," from the Syriac.)

James, Bishop of Nisibis, in the fourth century, was a man of great holiness. We are told by Theodoret that once, when James had newly come into Persia, it was vouchsafed to him to perform a miracle under the following circumstances: He chanced to pass by a fountain where young women were washing their linen, and, his modesty being profoundly shocked by the exposure involved in this occupation, he cursed the fountain, which instantly dried up, and he changed the hair of the girls from black to a sandy color. (Jortin, "Remarks on Ecclesiastical History," vol. iii, p. 4.)

Procopius, writing in the sixth century after Christ, and narrating how the Empress Theodora in early life would often appear almost naked before the public in the theatre, adds that she would willingly have appeared altogether nude, but that "no woman is allowed to expose herself altogether unless she wears at least short drawers over the

lower part of the abdomen." It is said that this is the first reference to this theatrical garment, which thus replaced complete nudity by "an innovation of Byzantine decadence." I may add, however, that there were certainly earlier attempts to abolish the public exhibition of feminine nakedness. Male athletes were entirely naked, but Chrysostom mentions, at the end of the fourth century, that Arcadius attempted to put down the August festival [Majuma], during which women appeared naked in the theatres or swimming in large baths.

"In the years 1450-70 the use of the cod-piece was introduced, whereby the attributes of manhood were accentuated in the most shameless manner. It was, in fact, the avowed aim at that period to attract attention to these parts. The cod-piece was sometimes colored differently from the rest of the garments, often stuffed out to enlarge it artificially, and decorated with ribbons." (Rudeck, "Geschichte der öffentlichen Sittlichkeit in Deutschland," pp. 45-48. Groos refers to the significance of this fashion, "Spiele der Menschen," p. 337.)

"The shirt first began to be worn [in Germany] in the sixteenth century. From this fact, as well as from the custom of public bathing, we reach the remarkable result that for the German people the sight of complete nakedness was the daily rule up to the sixteenth century. Everyone undressed completely before going to bed, and in the vapor-baths no covering was used. Again, the dances, both of the peasants and the townspeople, were characterized by very high leaps into the air. It was the chief delight of the dancers for the male to raise his partner as high as possible in the air so that her dress flew up. That feminine modesty was in this respect very indifferent we know from countless references made in the fifteenth and sixteenth centuries. It must not be forgotten that throughout the middle ages women wore no underclothes, and even in the seventeenth century the wearing of drawers by Italian women was regarded as singular. That with the disappearance of the baths and the use of body-linen a powerful influence was exerted on the creation of modesty there can be little doubt." (Rudeck, "Geschichte der öffentlichen Sittlichkeit in Deutschland," pp. 57, 399, etc.)

"It was at the epoch when Calvinism began to flourish that the nude was first proscribed from custom, and took refuge in art, which alone preserved the tradition of it. Formerly, as still in the days of Charles V, there was no public festival without a scheme of beautiful naked girls [it should be added that these were usually prostitutes]; nakedness was so little feared that adulterous women were led naked through the streets, and there can be no doubt that in the Mysteries such parts as those of Adam and Eve were played by persons who were without the hideous luxury of tights." (Remy de Gourmont, "Le Livre des Masques," p. 184.)

"At Cork," says Fynes Moryson, in 1617, "I have seen with these eyes young maids stark naked grinding corn with certain stones to make cakes thereof." (Moryson, "Itinerary," Part 3, Book III, Chapter V.)

"In the more remote parts of Ireland," Moryson elsewhere says, where the English laws and manners are unknown, "the very chief of the Irish, men as well as women, go naked in very winter-time, only having their privy parts covered with a rag of linen and their bodies with a loose mantle. This I speak of my own experience." He goes on to tell of a Bohemian baron, just come from the North of Ireland, who "told me in great earnestness that he, coming to the house of Ocane, a great lord among them, was met at the door with sixteen women, all naked excepting their loose mantles; whereof eight or ten were very fair, and two seemed very nymphs, with which strange sight, his eyes being dazzled, they led him into the house, and then sitting down by the fire with crossed legs like tailors, and so low as could not but offend chaste eyes, desired him to set down with them. Soon after Ocane, the lord of the country, came in, all naked excepting a loose mantle, and shoes, which he put off as soon as he came in, and entertaining the baron after his best manner in the Latin tongue, desired him to put off his apparel, which he thought to be a burthen to him, and to sit naked by the fire with this naked company. But the baron . . . for shame durst not put off his apparel." (Part 3, Book IV, Chapter II.)

Coryat, when traveling in Italy in the early part of the seventeenth century, found that in Lombardy many of the women and children wore only smocks, or shirts, in the hot weather. At Venice and Padua he found that wives, widows, and maids walk with naked breasts, many with backs also naked, almost to the middle. (Coryat, "Crudities," 1611. The fashion of *décolleté* garments, it may be remarked, only begun in the fourteenth century; previously, the women of Europe generally covered themselves up to the neck.)

In northern Italy, some years ago, a fire occurred at night in a house in which two girls were sleeping, naked, according to the custom. One threw herself out and was saved, the other returned for a garment, and was burnt to death. The narrator of the incident [a man] expressed strong approval of the more modest girl's action. (Private communication.)

Lady Mary Wortley Montague writes in 1717 of the Turkish ladies at the baths at Sophia: "The first sofas were covered with cushions and rich carpets, on which sat the ladies, and on the second, their slaves behind them, but without any distinction of rank in their dress, all being in a state of Nature; that is, in plain English, stark naked, without any beauty or defect concealed. Yet there was not the least

wanton smile or immodest gesture among them. They walked and moved with the same majestic grace which Milton describes of our general mother. I am here convinced of the truth of a reflection I had often made, that if it was the fashion to go naked the face would be hardly observed." ("Letters and Works," 1866, vol. i, p. 285.)

Edwards, describing a stay among Brazilians in the Para province, says: "The Senhora Henriquez made a little picnic party for our entertainment, which passed off delightfully, and much as such a party would have done at home. But there was one feature that distinguished it from any pleasure-party I ever participated in amid civilization and refinement, and that was the bathing at the *finale*. In this there was little fastidiousness, although perfect decorum. While the gentlemen were in the water, the ladies upon the bank were applauding, criticising, and comparing styles, for there were almost as many nations of us as individuals; and when, in their turns, they darted through the water, or dived, like streaks of light, to the very bottom, they were in nowise distressed that we scrupled not at the same privilege. They were all practiced and graceful swimmers, but the senhora particularly,—as she rose with her long hair, long enough to sweep the ground when walking, enshrouding her in its silken folds,—might have been taken for the living, new-world Venus. We never saw, as some have asserted is the ease, both sexes promiscuously in the water. (W. H. Edwards, "A Voyage up the River Amazon," Chapter XV, 1846.)

Taine points out that it was in France during the eighteenth century that the idea developed that modesty, like dress, is a convention. He refers to Mme. d'Epinay's "Memoirs" and the conversation between Duelos and Saint-Lambert at Mlle. Quinault's; also to Rousseau's "Confessions," Part 1, Book V, and the principles taught by M. de Tavel to Mme. de Warens [the latter reference is, however, scarcely to the point, since de Tavel's principles seem to have been merely professed in order to seduce Mme. de Warens]. (Taine, "Les Origines," tome i, "L'Ancien Régime." I may also refer to Diderot's "Supplément au Voyage de Bougainville.")

Mary Wollstonecraft quotes the following remarks: "The lady who asked the question whether women may be instructed in the modern system of botany was accused of ridiculous prudery; nevertheless, if she had proposed the question to me, I should certainly have answered: 'They cannot!'" She further quotes from an educational book: "It would be needless to caution you against putting your hand, by chance, under your neck-handkerchief; for a modest woman never did so." (Mary Wollstonecraft, "The Rights of Woman," 1792, pp. 277, 289.)

In the present century a knowledge of the physiology of plants is not usually considered inconsistent with modesty, but a knowledge

of animal physiology is still so considered by many. Dr. H. R. Hopkins, of New York, wrote in 1895 regarding the teaching of physiology: "How can we teach growing girls the functions of the various parts of the human body and still leave them their modesty? That is the practical question that has puzzled me for years."

In England the use of drawers was almost unknown half a century ago, and was considered immodest and unfeminine. Tilt, a distinguished gynecologist of that period, advocated such garments, made of fine calico and not to descend below the knee, on hygienic grounds. "Thus understood," he added, "the adoption of drawers will doubtless become more general in this country, as, being worn without the knowledge of the general observer, they will be robbed of the prejudice usually attached to an appendage deemed masculine." (Tilt, "Elements of Health," 1852, p. 193.)

Prof. Irving Rosse, of Washington, refers to "New England prudishness," and "the colossal modesty of some New York policemen, who in certain cases want to give written rather than oral testimony." He adds: "I have known this sentiment carried to such an extent in a Massachusetts small town that a shop-keeper was obliged to drape a small, but innocent, statuette displayed in his window." (Irving Rosse, *Virginia Medical Monthly*, October, 1892.) I am told that popular feeling in South Africa would not permit the exhibition of the nude in the Art Collections of Cape Town.

An American physician, Dr. Green, referring to the modesty of women who refuse to submit to rectal examination, remarks: "This feeling does not prevail exclusively among women, but men also sometimes declare themselves averse to any such procedure. On one occasion a prominent Western physician, who had suffered several years from a painful rectal trouble, continued to endure the disease because of the great repugnance he always had felt even for an ordinary examination. Patients in dispensary practice often run the gauntlet of rigid examination in almost every department, and yet harbor distressing and even dangerous diseases rather than submit to rectal examination." (*Medical Standard*, 1896.)

Recently (1898) it was stated that the Philadelphia *Ladies' Home Journal* had decided to avoid, in future, all reference to ladies' underlinen because "the treatment of this subject in print calls for *minutiæ* of detail which is extremely and pardonably offensive to refined and sensitive women."

Lombroso and Ferrero mention, as noteworthy, that "strange, vicarious form of modesty observed in many prostitutes who are ashamed to be examined in the sexual organs when not clean, or during the monthly periods, displaying sometimes in this respect a resistance

greater than that offered by the modesty of respectable women." (Lombroso e Ferrero, "La Donna Delinquente," p. 540.)

With reference to the advice given by an authority on midwifery regarding the washing of the external genitals before childbirth, a doctor writes to a medical journal: "No doubt this is necessary, and might be done with an educated person; but as we descend the social scale, it is astonishing to find the great amount of mock modesty, and I am afraid few women would allow themselves to be exposed as Dr. Jardine advocates. I remember one case in which the woman was so hypersensitive that it was with the greatest difficulty that I was even allowed to make a digital examination under the clothes. [It is, however, unreasonable in this connection to speak of *mock* modesty.] (*British Medical Journal*, September 24, 1898.)

"A man, married twenty years, told me that he had never seen his wife entirely nude. Such concealment of the external reproductive organs by married people appears to be common. Judging from my own inquiry, very few women care to look upon male nakedness, and many women, though not wanting in esthetic feeling, find no beauty in man's form. Some are positively repelled by the sight of nakedness, even that of a husband or lover. On the contrary, most men delight in gazing upon the uncovered figure of women. It seems that only highly-cultivated and imaginative women enjoy the spectacle of a finely-shaped nude man (especially after attending art-classes and drawing from the nude, as I am told by a lady artist). Or else the majority of women dissemble their curiosity or admiration. A woman of seventy, mother of several children, said to a young wife with whom I am acquainted: 'I have never seen a naked man in my life.' This old lady's sister confessed that she had never looked at *her own* nakedness in the whole course of her life. She said that it 'frightened' her. She was the mother of three sons. A maiden woman of the same family told her niece that women were 'disgusting because they have monthly discharges.' The niece suggested that women have no choice in the matter, to which the aunt replied: 'I know that; but it doesn't make them less disgusting.' I have heard of a girl who died from hemorrhage of the womb, refusing, through shame, to make the ailment known to her family. The misery suffered by some women at the anticipation of a medical examination appears to be very acute. Husbands have told me of brides who sob and tremble with fright on the wedding-night, the hysteria being sometimes alarming. E., aged 25, refused her husband for six weeks after marriage, exhibiting the greatest fear of his approach. Ignorance of the nature of the sexual connection is often the cause of exaggerated alarm. In Jersey I used to hear of a bride who ran to the window and screamed 'murder' on the wedding-night." (Private communication.)

At the present day it is not regarded as incompatible with modesty

to exhibit the lower part of the thigh when in swimming costume, but it is immodest to exhibit the upper part of the thigh. In swimming competitions a minimum of clothing must be combined with the demands of modesty. The regulations of the Swimming Clubs affiliated to the Amateur Swimming Association require that the male swimmer's costume shall extend not less than eight inches from the bifurcation downward, and that the female swimmer's costume shall extend to within not more than three inches from the knee. (A prolonged discussion, we are told, arose as to whether the costume should come to one, two, or three inches from the knee, and the proposal of the youngest lady swimmer present, that the costume ought to be very scanty, met with little approval.) The modesty of women is thus seen to be greater than that of men by, roughly speaking, about two inches. The same difference may be seen in the sleeves: the male sleeve must extend for two inches, the female sleeve four inches, down the arm. (Daily papers, September 26, 1898.)

"At ————, bathing in a state of Nature was *de rigueur* for the *élite* of the bathers, while our Sunday visitors from the slums frequently made a great point of wearing bathing costumes; it was frequently noticed that those who were most anxious to avoid exposing their persons were distinguished by the foulness of their language. My impression was that their foul-mindedness deprived them of the consciousness of safety from coarse jests. If I were bathing alone among blackguards I should probably feel uncomfortable myself if without costume." (Private communication.)

"A woman mentioned to me that a man came to her and told her in confidence his distress of mind: he feared he had *corrupted* his wife because she got into a bath in his presence with her baby, and enjoyed his looking at her splashing about. He was deeply distressed, thinking he must have done her harm and destroyed her modesty. The woman to whom this was said felt naturally indignant, but also it gave her the feeling as if every man may secretly despise a woman for the very things he teaches her, and only meets her confiding delight with regret or dislike." (Private communication.)

In a study of one hundred and twenty-five American high-school girls Dr. Helen Kennedy refers to the "modesty" which makes it impossible even for mothers and daughters to speak to each other concerning the menstrual functions. "Thirty-six girls in this high-school passed into womanhood with no knowledge whatever, from a proper source, of all that makes them women. Thirty-nine were probably not much wiser, for they stated that they had received some instruction, but had not talked freely on the matter. From the fact that the curious girl did not talk freely on what naturally interested her, it is possible she was put off with a few words as to personal care, and a reprimand

for her curiosity. Less than half of the girls felt free to talk with their mothers of this most important matter!" (Helen Kennedy, "Effects of High-school Work upon Girls during Adolescence," *Pedagogical Seminary*, June, 1896.)

Much the same was true of England some years earlier, if not now. Thus, Tilt, writing in 1852 ("Elements of Health and Principles of Female Hygiene," p. 183), stated that from a statistical inquiry regarding the onset of menstruation in nearly 1000 women he found that "25 per cent. were totally unprepared for its appearance; that 13 out of the 25 were much frightened, screamed, or went into hysterical fits; and that 6 out of the 13 thought themselves wounded and washed with cold water. Of those frightened . . . the general health was seriously impaired."

The foregoing selection of facts might, of course, be indefinitely enlarged, since I have not generally quoted from any previous collection of facts bearing on the question of modesty. Such collections may be found in Ploss and Max Bartels "Das Weib," a work that is constantly appearing in new and enlarged editions; Herbert Spencer, "Descriptive Sociology" (especially under such headings as "Clothing," "Moral Sentiments," and "Æsthetic Products"); Rudeck, "Geschichte der öffentlichen Sittlichkeit" *passim*; Alwin Schultz, "Das höfische Leben zur Zeit der Minnesinger," B. 1; A. Franklin, "Vie Privée d'Autrefois," especially volume on "Hygiène," appendixes; Mantegazza, "Amori degli Uomini," Chapter II; Westermarck, "Marriage," Chapter IX; Pesehel, "Races of Man," pp. 171 *et seq.*; Letourneau, "L'Evolution de la Morale," p. 126 *et seq.*; G. Mortimer, "Chapters on Human Love," Chapter IV; and in the general anthropological works of Waitz-Gerland, Ratzel, and others.

That modesty—like all the closely-allied emotions—is based on fear, one of the most primitive of the emotions, seems to be fairly evident.[1] The association of modesty and fear is even a very ancient observation, and is found in the fragments of Epicharmus. Modesty is, indeed, an agglomeration of fears, especially, as I hope to show, of two important and distinct fears: one of much earlier than human origin, and supplied solely by the female: the other of more distinctly human character, and of social, rather than sexual, origin.

A child left to itself, though very bashful, is wholly devoid

[1] Fliess ("Die Beziehungen zwischen Nase und weiblichen Geschlechts-Organen," p. 194) remarks on the fact that, in the Bible narrative of Eden, shame and fear are represented as being brought into the world together: Adam feared God because he was naked.

of modesty.[1] Everyone is familiar with the shocking *inconvenances* of children in speech and act, with the charming ways in which they innocently disregard the conventions of modesty their elders thrust upon them, or, even when anxious to carry them out, wholly miss the point at issue: as when a child thinks that to put a little garment round the neck satisfies the demands of modesty. Under civilized conditions the convention of modesty long precedes its real development. It may fairly be said that this takes place at the advent of puberty.[2] We may admit, with Perez, one of the very few writers who touch on the evolution of this emotion, that modesty may appear at a very early age if sexual desire appears early.[3] We should not, however, be justified in asserting that on this account modesty is a purely-sexual phenomenon. The social impulses also develop about puberty, and to that coincidence the compound nature of the emotion of modesty may well be largely due.

The sexual factor is, however, the simplest and most primitive element of modesty, and may, therefore, be mentioned first. Anyone who watches a bitch, not in heat, when approached by a dog with tail wagging gallantly, may see the beginnings of modesty. When the dog's attentions become a little too marked, the bitch squats firmly down on the front legs and hind quarters. She assumes, that is to say, an attitude which is exactly equivalent to that which in the human race is typified by the classical example of womanly modesty in the Medicean Venus, who withdraws the pelvis, at the same time holding one hand to guard the pubes, the other to guard the breasts.[4] The essential expres-

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[1] Bashfulness in children has been dealt with by Professor Baldwin; see especially his "Mental Development in the Child and the Race," Chapter VI, pp. 146 *et seq.*, and "Social Interpretations in Mental Development," Chapter VI.

[2] Professor Starbuck ("Psychology of Religion," Chapter XXX) refers to unpublished investigation showing that recognition of the rights of others also exhibits a sudden increment at the age of puberty.

[3] Perez, "L'Enfant de Trois à Sept Ans," 1886, pp. 267-277. In the same passage Perez has some interesting and suggestive remarks pointing out the natural basis of the love of the obscene.

[4] It must be remembered that the Medicean Venus is merely a comparatively recent and familiar embodiment of a natural attitude, which is very ancient, and had impressed sculptors at a far earlier period.

sion in each case is that of an intention to defend the sexual centres against the undesired advances of the male. This is so obvious—though not, I think, generally recognized—that it seems needless to insist upon it. The sexual modesty of the female animal is rooted in the sexual periodicity of the female, and is an involuntary expression of the organic fact that the time for love is not now. Inasmuch as this fact is true of the greater part of the lives of all female animals below man, the expression itself becomes so habitual that it even intrudes at those moments when it has ceased to be in place. We may see this again illustrated in the bitch, who, when in heat, herself runs after the male, and again turns to flee, perhaps only submitting with much persuasion to his embrace. Thus, modesty becomes something more than a mere refusal of the male; it becomes an invitation to the male, and is mixed up with his ideas of what is sexually desirable in the female. This would alone serve to account for the existence of modesty as a psychical secondary sexual character. In this sense, and in this sense only, we may say, with Colin Scott, that "the feeling of shame is made to be overcome." The sexual modesty of the female is thus an inevitable by-product of the naturally aggressive attitude of the male in sexual relationships and the naturally defensive attitude of the female, this again being founded on the fact that, while —in man and the species allied to him—the sexual function in the female is periodic, and during most of life a function to be guarded from the opposite sex, in the male it rarely or never needs to be so guarded.[1]

Reinach, indeed, believes ("La Sculpture en Europe," L'Anthropologie, No. 5, 1895) that the hand was first brought to the breast to press out the milk, and expresses the idea of exuberance, and that the attitude of the Venus of Medici as a symbol of modesty came later; he remarks that, as regards both hands, this attitude may be found in a figurine of Cyprus 2000 years before Christ. This is, no doubt, correct, and I may add that Babylonian figurines of Ishtar, the goddess of fertility, represent her as clasping her hands to her breasts or her womb.

[1] I do not hereby mean to deny a certain degree of normal periodicity even to the human male: but such periodicity scarcely involves any element of sexual fear or attitude of sexual defence, in man because it is too slight to involve complete latency of the sexual functions, in other species because latency of sexual function in the male is always accompanied by corresponding latency in the female.

It is on this fundamental sexual factor of modesty, existing in a well-marked form even among animals, that coquetry is founded. I am glad to find myself on this point in agreement with Professor Groos, who, in his elaborate study of the play-instinct, has reached the same conclusion. So far from being the mere heartless play by which a woman shows her power over a man, Groos points out that coquetry possesses "high biological and psychological significance," being rooted in the antagonism between the sexual instinct and inborn modesty. He refers to the roe, who runs away from the stag—but in a circle. (Groos, "Die Spiele der Menschen," 1899, p. 339; also the same author's "Die Spiele der Thiere," pp. 288 *et seq.*)

This fundamental animal factor of modesty, rooted in the natural facts of the sexual life of the higher mammals, and especially man, obviously will not explain all the phenomena of modesty; it fails to account for ornament and clothing, and it scarcely appears to furnish an adequate basis for modesty in the male. For this we must, in large part at least, turn to the other great primary element of modesty, the social factor.

We cannot doubt that one of the most primitive and universal of the social characteristics of man is an aptitude for disgust, founded, as it is, on a yet more primitive and animal aptitude for disgust, which has little or no social significance. In nearly all races, even the most savage, we seem to find distinct traces of this aptitude for disgust in the presence of certain actions of others, an emotion naturally reflected in the individual's own actions, and hence a guide to conduct. Notwithstanding our gastric community of disgust with lower animals, it is only in man that this disgust seems to become transformed and developed, to possess a distinctly social character, and to serve as a guide to social conduct. The objects of disgust vary infinitely according to the circumstances and habits of particular races, but the reaction of disgust is fundamental throughout.

The best study of the phenomena of disgust known to me is, without doubt, Professor Richet's.[1] Richet concludes that it is

[1] C. Richet, "Les Causes du Dégoût," L'Homme et l'Intelligence, 1884. This eminent physiologist's elaborate study of disgust was not written as a contribution to the psychology of modesty, but it forms an admirable introduction to the investigation of the social factor of modesty.

the *dangerous* and the *useless* which evoke disgust. The digestive and sexual excretions and secretions, being either useless or, in accordance with wide-spread primitive ideas, highly dangerous, the genito-anal region became a concentrated focus of disgust.[1] It is for this reason, no doubt, that savage men exhibit modesty, not only toward women, but toward their own sex, and that so many of the lowest savages take great precautions in obtaining seclusion for the fulfillment of natural functions. The statement now so often made that the primary object of clothes is to accentuate rather than to conceal has in it—as I shall point out later—a large element of truth, but it is by no means a complete account of the matter. It seems difficult not to admit that, alongside the impulse to accentuate sexual differences, there is also in both men and women a genuine impulse to concealment among the most primitive peoples, and the invincible repugnance often felt by savages to remove the girdle or apron is scarcely accounted for by the theory that it is a sexual lure.

In this connection it seems to me instructive to consider a special form of modesty very strongly marked among savages in some parts of the world. I refer to the feeling of immodesty in eating. Where this feeling exists, modesty is offended when one eats in public; the modest man retires to eat. Indecency, said Cook, was utterly unknown among the Tahitians; but they would not eat together; even brothers and sisters had their separate baskets of provisions, and generally sat some yards apart, with their backs to each other, when they ate.[2] The

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[1] It is interesting to note that where, as among the Esquimaux, urine, for instance, is preserved as a highly-valuable commodity, the act of urination, even at table, is not regarded as in the slightest degree disgusting or immodest; Bourke ("Scatologic Rites") mentions that it is frequently the duty of the host's daughter to attend the needs of guests in this respect during meals.

[2] Crawley (Journal of the Anthropological Institute, May, 1895, p. 439) gives numerous other instances, even in Europe, with, however, special reference to sexual taboo. I may remark that English people of lower class, especially women, are often modest about eating in the presence of people of higher class. This feeling is, no doubt, due, in part, to the consciousness of defective etiquette, but that very consciousness is, in part, a development of the fear of causing disgust, which is a component of modesty.

Warrua of Central Africa, Cameron found, when offered a drink, put up a cloth before their faces while they swallowed it, and would not allow anyone to see them eat or drink; so that every man or woman must have his own fire and cook for himself.[1] Karl von den Steinen remarks, in his interesting book on Brazil, that, though the Bakairi of Central Brazil have no feeling of shame about nakedness, they are ashamed to eat in public; they retire to eat, and hung their heads in shame-faced confusion when they saw him innocently eat in public. Hrolf Vaughan Stevens found that, when he gave an Orang-Laut (Malay) woman anything to eat, she not only would not eat if her husband were present, but if any man were present she would go outside before eating or giving her children to eat.[2] Thus among these peoples the act of eating in public produces the same feelings as among ourselves the indecent exposure of the body in public.

It is quite easy to understand how this arises. Whenever there is any pressure on the means of subsistence, as among savages at some time or another there nearly always is, it must necessarily arouse a profound emotion of anger and disgust to see another person putting into his stomach what one might just as well have put into one's own. The special secrecy sometimes observed by women is probably due to the fact that women would be less able to resist the emotions that the act of eating would arouse in onlookers. As social feeling develops, a man desires not only to eat in safety, but also to avoid being an object of disgust, and to spare his friends all unpleasant emotions. Hence it becomes a requirement of ordinary decency to eat in private. A man who eats in public becomes—like the man who in our cities exposes his person in public—an object of disgust and contempt.

Long ago, when a hospital student on midwifery duty in London slums, I had occasion to observe that among the women of the poor, and more especially in those who had lost the first bloom of youth, modesty consisted chiefly in the fear of being

[1] Journal of the Anthropological Institute, vol. vi, p. 173.

[2] Stevens, "Mittheilungen aus dem Frauenleben der Orang Belendas," Zeitschrift für Ethnologie, H. 4, p. 167, 1896.

disgusting. There was almost a pathetic anxiety, in the face of pain and discomfort, not to be disgusting in the doctor's eyes. This anxiety expressed itself in the ordinary symptoms of modesty. But, as soon as the woman realized that I found nothing disgusting in whatever was proper and necessary to be done under the circumstances, it almost invariably happened that every sign of modesty at once disappeared. In the special and elementary conditions of parturition, modesty is reduced to this one fear of causing disgust; so that, when that is negated, the emotion is non-existent, and the subject becomes, without effort, as direct and natural as a little child. A fellow-student on similar duty, who also discovered for himself the same character of modesty—that if he was careful to guard her modesty the woman was careful also, and that if he was not the woman was not—remarked on it to me with sadness; it seemed to him derogatory to womanhood that what he had been accustomed to consider its supreme grace should be so superficial that he could at will set limits to it.[1] I thought then, as I think still,

[1] We neither of us knew that we had merely made afresh a very ancient discovery. Casanova, a century ago, quoted the remark of a friend of his, that the easiest way to overcome the modesty of a woman is to suppose it non-existent; and he adds a saying, which he attributes to Clement of Alexandria, that modesty, which seems so much more deeply rooted in women, only resides in the linen that covers them, and vanishes when it vanishes. The passage to which Casanova referred occurs in the "Pædagogus," and has already been quoted. The same observation seems to have appealed strongly to the Fathers, always glad to make a point against women, and I have met with it in Cyprian's "De Habitu Feminarum." It also occurs in Jerome's treatise against Jovinian. Jerome, with more scholarly instinct, rightly presents the remark as a quotation: "*Scribit Herodotus quod mulier cum veste deponat et verecundiam.*" In Herodotus the saying is attributed to Gyges (Book I, Chapter VIII). We may thus trace very far back into antiquity an observation which in English has received its classical expression from Chaucer, who in his "Wife of Bath's Prologue" has:—

> "He sayde, a woman cast hir shame away,
> When she cast of hir smok."

I need not point out that the analysis of modesty offered above robs this venerable saying of any sting it may have possessed as a slur upon women. In such a case modesty is largely a doubt as to the spectator's attitude, and necessarily disappears when that doubt is satisfactorily resolved. As we have seen, the Central Australian maidens were very modest with regard to the removal of their single garment, but when that removal was accomplished and accepted they were fearless.

that that was rather a perversion of the matter, and that nothing becomes degrading because we happen to have learned something about its operations. But I am more convinced than ever that the fear of causing disgust—a fear quite distinct from that of losing a sexual lure or breaking a rule of social etiquette—plays a very large part in the modesty of the more modest sex, and in modesty generally. Our Venuses, as Lucretius long since remarked and Montaigne after him, are careful to conceal from their lovers the *vitæ postscenia*, and that fantastic fate which placed so near together the supreme foci of physical attraction and physical repugnance has immensely contributed to build up all the subtlest coquetries of courtship. Whatever stimulates self-confidence and lulls the fear of evoking disgust—whether it is the presence of a beloved person in whose good opinion complete confidence is felt, or whether it is merely the grosser narcotizing influence of a slight degree of intoxication—always automatically lulls the emotion of modesty.[1] Together with the animal factor of sexual refusal, this social fear of evoking disgust seems to me the most fundamental element in modesty.

It is, of course, impossible to argue that the fact of the sacro-pubic region of the body being the chief focus of concealment proves the importance of this factor of modesty. But it may fairly be argued that it owes this position not merely to being the sexual centre, but also as being the excretory centre. Even among many lower mammals, as well as among birds and insects, there is a well-marked horror of dirt, somewhat disguised by the varying ways in which an animal may be said to define "dirt." Many animals spend more time and energy in the duties of cleanliness than human beings, and they often show well-marked anxiety to remove their own excrement, or to keep away from it.[2] Thus this element of modesty also may be said to have an animal basis.

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[1] The same result occurs more markedly under the deadening influence of insanity. Grimaldi ("Il Manicomio Moderno," 1888) found that modesty is lacking in 50 per cent. of the insane.

[2] For some facts bearing on this point, see Houssay, "Industries of Animals," Chapter VII. "The Defence and Sanitation of Dwellings"; also P. Ballion, "De l'Instinct de Propreté chez les Animaux."

It is on this animal basis that the human and social fear of arousing disgust has developed. Its probably wide extension is indicated not only by the strong feeling attached to the constant presence of clothing on this part of the body—such constant presence being quite uncalled for if the garment or ornament is merely a sort of sexual war-paint—but by the repugnance felt by many savages very low down in the scale to the public satisfaction of natural needs, and to their more than civilized cleanliness in this connection;[1] it is further of interest to note that in some parts of the world the covering is not in front, but behind; though of this fact there are probably other explanations. Among civilized people, also, it may be added, the final and invincible seat of modesty is not always around the pubes, but the anus; that is to say, that in such cases the fear of arousing disgust is the ultimate and most fundamental element of modesty.[2]

Another factor of modesty, which reaches a high development even in savagery, is the ritual element, especially the idea of ceremonial uncleanliness. It may be, to some extent, rooted in the elements already referred to, and it leads us into a much wider field than that of modesty; so that it is only necessary to mention it here. Ritual tends to crystallize around any act of life on which men expend deliberate attention, and the duties of modesty among savages are a sufficiently serious part of life to constitute a nucleus for ritual. No doubt, offences against ritual may be regarded as more serious than offences against modesty; but they are so obviously allied in early culture that

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[1] Thus, Stevens mentions (Zeitschrift für Ethnologie, p. 182, 1897) that the Dyaks of Malacca always wash the sexual organs even after urination, and are careful to use the left hand in doing so. The left hand is reserved for such uses among the Jekris of the Niger coast also (Journal of the Anthropological Institute, p. 122, 1898).

[2] Lombroso and Ferrero—who adopt the derivation of *pudor* from *putere*; *i.e.*, from the repugnance caused by the decomposition of the vaginal secretions—consider that the fear of causing disgust to men is the sole origin of modesty among savage women, as also it remains the sole form of modesty among prostitutes to-day. ("La Donna Delinquente," p. 540.) Important as this factor is in the constitution of the emotion of modesty, I need scarcely add that I regard this exclusive theory as altogether untenable.

the one reinforces the other, and they cannot be easily disentangled. All savage and barbarous peoples who have attained any high degree of ceremonialism have included the functions of sex and of excretion more or less stringently within the bounds of that ceremonialism. It is only necessary to refer to the Jewish ritual books of the Old Testament, to Hesoid, and to the customs prevalent among Mohammedan peoples.

At an early stage of culture, again, menstruation is regarded as a process of purification, a dangerous expulsion of vitiated humors. Hence the term *katharsis* applied to it by the Greeks. Hence also the mediæval view of women: "*Mulier speciosa templum ædificatum super cloacam*," said Boethius. The sacro-pubic region in women, because it includes the source of menstruation, thus becomes a specially heightened seat of taboo.[1] According to the Mosaic law (Leviticus, Chapter XX, v. 18), if a man uncovered a menstruating woman, both were to be cut off.

It is probable that the Mohammedan custom of veiling the face really has its source solely in another aspect of this ritual factor of modesty. It must be remembered that this custom is not Mohammedan in its origin, since it existed long previously among the Arabians, and is described by Tertullian.[2] In early Arabia very handsome men also veiled their faces, in order to preserve themselves from the evil eye, and it has been conjectured with much probability that the origin of the custom of women veiling their faces may be traced to this ritual precaution.[3]

So far it has only been necessary to refer incidentally to the connection of modesty with clothing. I have sought to em-

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[1] Durkheim ("La Prohibition de l'Inceste," L'Année Sociologique, p. 50, 1898), arguing that whatever sense of repugnance women may inspire must necessarily reach the highest point around the womb, which is hence subjected to the most stringent taboo, incidentally suggests that here is an origin of modesty. "The sexual organs must be veiled at an early period to prevent the dangerous effluvia which they give off from reaching the environment. The veil is often a method of intercepting magic action. Once constituted, the practice would be maintained and transformed."

[2] Tertullian, "De Virginibus Velandis," cap. 17.

[3] Wellhausen, "Reste Arabischen Heidentums," p. 196.

phasize the unquestionable, but often forgotten, fact that modesty is in its origins independent of clothing, that physiological modesty takes precedence of anatomical modesty, and that the primary factors of modesty were certainly developed long before the discovery of either ornament or garments. The rise of clothing probably had its first psychical basis on an emotion of modesty already compositely formed of the elements we have traced.[1] Both the main elementary factors, it must be noted, must naturally tend to develop and unite in a more complex, though—it may well be—much less intense, emotion. The impulse which leads the female animal, as it leads some African women, when found without their girdles, to squat firmly down on the earth, becomes a more refined and extended play of gesture and ornament and garment. A very notable advance, I may remark, is made when this primary attitude of defence against the action of the male becomes a defence against his eyes. We may thus explain the spread of modesty to various parts of the body, even when we exclude the more special influence of the evil eye. The breasts very early become a focus of modesty in women; this may be observed among many naked or nearly naked negro races; the tendency of the nates to become the chief seat of modesty in many parts of Africa may probably be thus explained, since the full development of the gluteal regions is often the greatest attraction an African woman can possess.[2] The same cause contributes, doubtless, to the face becoming,

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[1] It is possible, as some ethnographists have observed (*e.g.*, Letourneau, "l'Evolution de la Morale," p. 146), that intercrural cords and other primitive garments have a physical ground, inasmuch as they protect the most sensitive and unprotected part of the body, especially in women. We may note in this connection the significant remarks of K. von den Steinen, who argues that among Brazilian tribes the object of the *uluri*, etc., is to obtain a maximum of protection for the mucous membrane with a minimum of concealment. Among the Esquimaux, as Nansen noted, the corresponding intercrural cord is so thin as to be often practically invisible; this may be noted, I may add, in the excellent photographs of Esquimau women given by Holm.

[2] In Moruland Emin Bey remarked that women are mostly naked, but some wear a girdle with a few leaves hanging behind. The women of some negro tribes, who thus cover themselves behind, if deprived of this sole covering, immediately throw themselves on the ground on their backs, in order to hide their nakedness.

in some races, the centre of modesty. We see the influence of this defence against strange eyes in the special precautions in gesture or clothing taken by the women in various parts of the world against the more offensive eyes of civilized Europeans.

But in thus becoming directed merely against sight, and not against action, the gestures of modesty are at once free to become merely those of coquetry. When there is no real danger of offensive action, there is no need for more than playful defence, and no serious anxiety should that defence be taken as a disguised invitation. Thus the road is at once fully open toward the most civilized manifestations of the comedy of courtship.

In the same way the social fear of arousing disgust combines easily and perfectly with any new development in the invention of ornament or clothing as sexual lures. Even among the most civilized races it has often been noted that the fashion of feminine garments (as also sometimes the use of scents) has the double object of concealing and attracting. It is so with the little apron of the young savage belle. The heightening of the attraction is, indeed, a logical outcome of the fear of evoking disgust.

The contention of Westermarck, that ornament and clothing are in large part due to the desire to give, not concealment, but prominence, to the sexual organs, and that modesty is a result, rather than a cause, of the use of clothes, may certainly be accepted, so long as we realize that it is not the whole of the truth, and that it is far from offering a complete explanation of the phenomena of modesty.

It does, however, undoubtedly rest on a psychic basis. Among some Australian tribes it is said that the sexual organs are only covered during their erotic dances; and it is further said that in some parts of the world only prostitutes are clothed. "The scanty covering," as Westermarck observes, "was found to act as the most powerful obtainable sexual stimulus. Hence the popularity of such garments in the savage world." It is undoubtedly true that this statement may be made not merely of the savage, but of the most civilized world. Dr. R. W. Felkin remarks, concerning Central Africa, that he nowhere met with more indecency than in Uganda, where the penalty of death is inflicted

on an adult found naked in the street. (*Edinburgh Medical Journal*, April, 1884.) Nakedness is always chaster in its effects than partial clothing. A study of pictures or statuary will alone serve to demonstrate this. As a well-known artist, Du Maurier, has remarked (in "Trilby"), it is "a fact well known to all painters and sculptors who have used the nude model (except a few shady pretenders, whose purity, not being of the right sort, has gone rank from too much watching) that nothing is so chaste as nudity. Venus herself, as she drops her garments and steps on to the model-throne, leaves behind her on the floor every weapon in her armory by which she can pierce to the grosser passions of men." Burton, in the "Anatomy of Melancholy" (Part III, Sect. II, Subsect. 3), deals at length with the "Allurements of Love," and concludes that "the greatest provocations of lust are from our apparel." A friend points out to me that an admirable poetic rendering of this element in the philosophy of clothing has been given by Herrick, in "The Lily in a Crystal." The artist's model is less exposed to liberties from men when nude than when she is partially clothed. This impulse, in the presence of attempts at apparent concealment, is founded on the fundamental attitude of the sexes toward each other. In this connection, also, it is worth noting that Stanley Hall, in a report based on returns from nearly a thousand persons, mostly teachers ("The Early Sense of Self," *American Journal of Psychology*, p. 366, 1898), finds that of the three functions of clothes—protection, ornament, and Lotzean "self-feeling"—the second is by far the most conspicuous in childhood. The attitude of children is testimony to the primitive attitude toward clothing.

The great artistic elaboration often displayed by articles of ornament or clothing, even when very small, and the fact—as shown by Karl von den Steinen regarding the Brazilian *uluri*—that they may serve as common motives in general decoration, sufficiently prove that such objects attract rather than avoid attention. And while there is an invincible repugnance among some peoples to remove these articles, such repugnance being often strongest when the adornment is most minute, others have no such repugnance or are quite indifferent whether or not their aprons are accurately adjusted. The mere presence or possession of the article gives the required sense of self-respect, of human dignity, of sexual desirability. Thus it is that to unclothe a person is to humiliate him; this was so even in Homeric times, for we may recall the threat of Ulysses to strip Thy-

estes.[1] When a civilized European woman is naked in the presence of others, her fundamental feeling seems usually to be, not "I am ashamed because I am naked," but "I am ashamed because I am unadorned." She feels, not that she is revealing her beauty, but that she is revealing herself deprived of her weapons of seduction. On the whole, all the motives already noted combine to concentrate modesty on the garment.

When clothing is once established, another element, this time a social-economic element, often comes in to emphasize its importance and increase the anatomical modesty of women. I mean the growth of the conception of women as property. Waitz, followed by Schurtz and Letourneau, has insisted that the jealousy of husbands is the primary origin of clothing, and, indirectly, of modesty. Diderot in the last century had already given clear expression to the same view. It is undoubtedly true that married women are often alone or chiefly clothed, and that the unmarried women, though full grown, remain naked. In many parts of the world, also, as Mantegazza and others have shown, where the men are naked and the women covered, clothing is regarded as a sort of disgrace, and men can only with difficulty be persuaded to adopt it. Before marriage a woman was often free, and not bound to chastity, and at the same time was often naked; after marriage, she was clothed, and no longer free. To the husband's mind, the garment appears—illogically, though naturally—a moral and physical protection against any attack on his property. Thus a new motive was furnished, this time somewhat artificially, for making nakedness, in women at all events, disgraceful. As the conception of property also extended to the father's right over his daughters, and the appreciation of female chastity developed, this motive spread to unmarried as well as married women. It probably constituted the chief element furnished to the complex emotion of modesty by the barbarous stages of human civilization.[2]

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[1] "Iliad," II. 262. Waitz gives instances ("Anthropology," p. 301) showing that nakedness is sometimes a mark of submission.

[2] The Celtic races, in their days of developed barbarism, seem to have been peculiarly free from the idea of proprietorship in women.

This economic factor necessarily involved the introduction of a new moral element into modesty. If a woman's chastity is the property of another person, it is essential that a woman shall be modest in order that men may not be tempted to incur the penalties involved by the infringement of property rights. Thus modesty is strictly inculcated on women in order that men may be safeguarded from temptation. Immodesty being, on this ground, disapproved by men, a new motive for modesty is furnished to women. In the book which the Knight of the Tower, Landry, wrote in the fourteenth century for the instruction of his daughters, this factor of modesty is naïvely revealed. He tells his daughters of the trouble that David got into through the thoughtlessness of Bathsheba, and warns them that "every woman ought religiously to conceal herself when dressing and washing, and neither out of vanity nor yet to attract attention show either her hair, or her neck, or her breast, or any part which ought to be covered." Hinton went so far as to regard what he termed "body modesty" as entirely a custom imposed upon women by men with the object of preserving their own virtue. While this motive is far from being the sole source of modesty, it must certainly be borne in mind as an inevitable outcome of the economic factor of modesty.

The chief new feature—it is scarcely a new element—added to modesty when an advanced civilization slowly emerges from barbarism is the elaboration of its social ritual. Civilization expands the range of modesty, and renders it, at the same time, more changeable. The French seventeenth century and the English eighteenth represent early stages of modern European civilization, and they both devoted special attention to the elaboration of the minute details of modesty. The frequenters of the Hotel Rambouillet, the *précieuses* satirized by Molière, were not only engaged in refining the language; they were refining feelings and ideas and enlarging the boundaries of

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Their women were highly honored, and, moreover (as represented in the Celtic poems), they usually took the initiative in matters of love. In French lyrical poetry of the twelfth century, largely infused by the Celtic spirit, Dowden remarks that "love was an affair for the woman; it was she alone who made a confession of the heart" (Dowden, "History of French Literature," p. 25). In view of what has been said above as to the predominance of the social-economic factor of modesty during barbarous periods of civilization, it is thus interesting to note that it was probably among the Irish, always distinguished by tenacious adherence to the spirit of racial and national customs, that the habit of nakedness was longest preserved among the upper social classes in Western Europe.

modesty. In England such famous and popular authors as Swift and Sterne bear witness to a new ardor of modesty in the sudden reticences, the dashes, and the asterisks which are found throughout their works. The altogether new quality of literary prurience, of which Sterne is still the classical example, could only have arisen on the basis of the new modesty which was then overspreading society and literature. Idle people, mostly, no doubt, the women in *salons* and drawing-rooms, people more familiar with books than with the realities of life, now laid down the rules of modesty, and were ever enlarging it, ever inventing new subtleties of gesture and speech, which it would be immodest to neglect, and which are ever being rendered vulgar by use and ever changing.

It was at this time, probably, that the custom of inventing an arbitrary private vocabulary of words and phrases for the purpose of disguising references to functions and parts of the body regarded as immodest and indecent first began to become common. (Vocabularies of this kind are, however, found even among savages. Thus Zache [*Zeitschrift für Ethnologie*, p. 213, 1899], states that the Swahili women of Africa have a private metaphorical language referring to sexual matters.) Such private slang, growing up independently in families, and especially among women, as well as between lovers, is now almost universal. It is not confined to any European country, and has been studied in Italy by Niceforo ("Il Gergo," 1897, cap. 1 and 2), who regards it as a weapon of social defence against an inquisitive or hostile environment, since it enables things to be said with a meaning which is unintelligible to all but the initiated person. While it is quite true that the custom is supported by the consciousness of its practical advantages, it has its primary source in an almost instinctive desire to avoid what is felt to be the vulgar immodesty of direct speech. This is sufficiently shown by the fact that such slang is chiefly concerned with the sacro-pubic sphere. It is one of the chief contributions to the phenomena of modesty furnished by civilization. The claims of modesty having effected the clothing of the body, the impulse of modesty finds a further sphere of activity—half-playful, yet wholly imperative—in the clothing of language.

It would, however, be a mistake to suppose that this process is an intensification of modesty. It is, on the contrary, an attenuation of it. The observances of modesty become merely a part of a vast body of rules of social etiquette, though a somewhat

stringent part, on account of the vague sense still persisting of a deep-lying natural basis.

Modesty thus comes to have the force of a tradition, a vague, but massive, force, bearing with special power on those who cannot reason. It has become mainly transformed into the allied emotion of decency, which has been described as "modesty fossilized into social customs." The whole emotion has been devitalized, and yields more readily than in its primitive state to any attack supported by a sufficiently-strong motive. Even fashion in the more civilized countries can easily inhibit anatomical modesty, and rapidly exhibit or accentuate, in turn, almost any part of the body. But the savage Indian woman of America, the barbarous woman of some Mohammedan countries, can scarcely sacrifice her modesty in the pangs of childbirth. Even when, among uncivilized races, the focus of modesty may be said to be eccentric and arbitrary, it still remains very rigid. In such savage and barbarous countries modesty possesses the strength of a genuine and irresistible instinct. In civilized countries anyone who places considerations of modesty before the claims of some real human need excites ridicule and contempt.

It is, however, impossible to contemplate this series of phenomena, so radically persistent, whatever its changes of form, and so constant throughout every stage of civilization, without feeling that, although modesty cannot properly be called an instinct, there must be some physiological basis to support it. Undoubtedly such a basis is formed by that vasomotor mechanism of which the most obvious outward sign is, in human beings, the blush.[1] All the allied emotional forms of fear—

[1] The blush is, indeed, only a part, almost perhaps an accidental part, of the organic turmoil with which it is associated. Partridge, who has studied the phenomena of blushing in one hundred and twenty cases (Pedagogical Seminary, April, 1897), finds that the following are the chief general symptoms: Tremors near the waist, weakness in the limbs, pressure, trembling, warmth, weight or beating in the chest, warm wave from feet upward, quivering of heart, stoppage and then rapid beating of heart, coldness all over followed by heat, dizziness, tingling of toes and fingers, numbness, something rising in throat, smarting of eyes, singing of ears, prickling sensations of face, and pressure inside head.

shame, bashfulness, timidity—are to some extent upheld by this mechanism, but such is especially the case with the emotion we are now concerned with. The blush is the sanction of modesty.

When the Brazilian offered Karl von den Steinen some food, which he ate immediately in public the Brazilian hung his head. Whether or not he blushed, he was certainly conscious of that capillary turmoil of the face, of which the shock of offended modesty is the cause and blushing the most visible sign.[1] It is scarcely an accident that, as has been often observed, criminals, or the antisocial element of the community,—whether by the habits of their lives or by congenital abnormality,—blush less easily than normal persons.[2] The importance of the blush, and the emotional confusion behind it as the sources of modesty is shown by the significant fact that by skillfully lulling emotional confusion it is possible to inhibit the sense of modesty itself. In other words, it may be said that we are here in the presence of a fear—to a large extent, a sex-fear—impelling to concealment, and this emotion naturally disappears, even though its ostensible cause remains, when it is apparent that there is no cause for fear.[3] Thus, it is, to some extent at least, true that

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[1] With regard to the phenomena of blushing among different races, see Waitz, "Anthropologie der Naturvölker," B. 1, pp. 149-150. Since this study was written I have read Melinand's excellent article on the psychological cause of blushing ("Pourquoi Rougit-on?" Revue des Deux Mondes, 1 Octobre, 1893). This author points out that blushing is always associated with fear, and indicates, in the various conditions under which it may arise,—modesty, *pudeur*, timidity, confusion,—that we have something to conceal which we fear may be discovered.

[2] Kroner (Das körperliche Gefühl," 1887, p. 130) remarks: "The origin of a specific connection between shame and blushing is the work of a *social selection*. It is certainly an immediate advantage for a man not to blush; indirectly, however, it is a disadvantage because in other ways he will be known as shameless, and on that account, as a rule, he will be shut out from propagation. This social selection will be specially exercised on the female sex, and on this account women blush to a greater extent, and more readily, than men."

[3] The same result is attained when the consciousness of nakedness is accompanied by a consciousness of perfect propriety, as well in the naked person as in the by-stander. A pupil of Ingres tells that a female model was once quietly posing, completely nude, at the Ecole des Beaux Arts. Suddenly she screamed, and ran to cover herself with her garments. She had seen the head of a workman on the roof gazing inquisitively at her through a sky-light. The modesty of men is also very sensitive to any such inquisitiveness on the part of the opposite sex. To

people are modest because they blush or because they feel the possibility of blushing, rather than that they blush because they are modest. In the same way we may explain the curious influence of darkness in restraining the manifestations of modesty, as many lovers have discovered, and as we may notice in our cities after dark; it is true that the immodesty of a city like London at night is largely explained by the prevalence of prostitution at this time; prostitutes, being habitually nearer to the threshold of immodesty, are more markedly affected by an influence to which most women, at all events, are to some extent susceptible.[1] It is curious to note that short-sightedness, as well as blindness, naturally, though illogically, tends to exert the same influence as darkness in this respect; I am assured by short-sighted persons of both sexes that they are much more liable to the emotions of shyness and modesty with their glasses than without them; such persons with difficulty realize that they are not so dim to others as others are to them. To be in the company of a blind person seems also to be a protection against shyness.[2] It is, of course, not as the mere cloak of a possible blush that darkness gives courage; it is because it makes impossible a too-detailed self-realization, such conscious self-realization being always a source of fears, and the blush their definite symbol and visible climax. This mechanism of blushing thus runs parallel,

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this cause, perhaps, or possibly also to the fear of causing disgust, may be ascribed the objection of men to undress before women artists and women doctors. I am told there is often difficulty in getting men to pose nude to women artists. Mr. Jonathan Hutchinson was recently compelled to exclude lady members of the medical profession from the instructive demonstration at his museum "on account of the unwillingness of male patients to undress before them." A similar unwillingness is not found among women patients, but it must be remembered that, while women are accustomed to regard men as doctors, men (in England) are not yet accustomed to regard women as doctors.

[1] The influence of darkness in inhibiting modesty is a very ancient observation. Burton in the "Anatomy of Melancholy" quotes Dandinus—"*Nox facit impudentes.*"—connecting this influence with blushing.

[2] "I am acquainted with the case of a shy man," writes Dr. Harry Campbell in his interesting study of "Morbid Shyness" (British Medical Journal, September 26, 1896), "who will make himself quite at home in the house of a blind person, and help himself to wine with the utmost confidence, whereas if a member of the family, who can see, comes into the room, all his old shyness returns, and he wishes himself far away."

on the physiological side, with that fear of evoking disgust to which I have already referred. It is to the blush, also, that we must attribute a curious complementary relationship between the face and the sacro-pubic region as centres of anatomical modesty. The women of some African tribes who go naked, Emin Bey remarked, cover the face with the hand under the influence of modesty. Martial long since remarked (Lib. iii, LXVIII) that when an innocent girl looks at the penis she gazes through her fingers. Where, as among many Mohammedan peoples, the face is the chief focus of modesty, the exposure of the rest of the body, including sometimes even the sacro-pubic region, and certainly the legs and thighs, becomes a matter of indifference.[1] When, also, as among ourselves in gynecological practice, examination of the sexual organs is required, women frequently find evident satisfaction in concealing the face with the hands, although not the slightest attention is being directed to that part of the body.[2] All such facts—to which might be added a reference to the marked modesty often shown in some respects by prostitutes—serve to show that, though the forms of modesty may change, it is yet a very radical constituent of human nature in all stages of civilization, and that it is, to a large extent, maintained by the mechanism of blushing.

It may still be asked, finally, whether, on the whole, mod-

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[1] When Casanova was at Constantinople, the Comte de Bonneval, a convert to Islam, assured him that he was mistaken in trying to see a woman's face when he might more easily obtain greater favors from her. "The most reserved of Turkish women," the Comte assured him, "only carries her modesty in her face, and as soon as her veil is on she is sure that she will never blush at anything." ("Mémoires," vol. i, p. 429.)

[2] It is worth noting that this impulse is rooted in the natural instinctive acts and ideas of childhood. Prof. Stanley Hall, dealing with the "Early Sense of Self," in the report already mentioned, refers to the eyes as perhaps even more than the hands, feet, and mouth, "the centres of that kind of self-consciousness which is always mindful of how the self appears to others," and proceeds to mention "the very common impression of young children that if the eyes are covered or closed they cannot be seen. Some think the entire body thus vanishes from sight of others; some that the head also ceases to be visible; and a still higher form of this curious psychosis is that when they are closed the soul cannot be seen." (American Journal of Psychology, vol. ix, No. 3, 1898.) In the adult woman the associated idea has died out, but the satisfaction felt in the act still persists.

esty really becomes a more prominent emotion as civilization advances. I do not think this position can be maintained. It is a great mistake, as we have seen, to suppose that in becoming extended modesty also becomes intensified. On the contrary, this very extension is a sign of weakness. Among savages modesty is far more radical and invincible than among the civilized. Of the Araucanian women of Chile, Treutler has remarked that they are distinctly more modest than the Christian white population, and such observations might be indefinitely extended. It is, as we have already noted, in a new and crude civilization, anxious to mark its separation from a barbarism it has yet scarcely escaped, that we find an extravagant and fantastic anxiety to extend the limits of modesty in life and art and literature. In older and more mature civilizations—in classical antiquity, in old Japan, in France—modesty, while still a very real influence, becomes a much less predominant and all-pervading influence. In life it becomes subservient to human use, in art to beauty, in literature to expression. Among ourselves we may note that modesty is a much more invincible motive among the lower social classes than among the more cultivated classes. This is so even when we should expect the influence of occupation to induce familiarity. Thus I have been told of a ballet-girl who thinks it immodest to bathe in the fashion customary at the sea-side, and cannot make up her mind to do so, but she appears on the stage every night in tights as a matter of course. Modesty is a part of self-respect, but in the fully-developed human being self-respect itself holds in check any excessive modesty. We must remember, moreover, that there are more definite grounds for the subordination of modesty with the development of civilization. We have seen that the factors of modesty are many, and that most of them are based on emotions which make little urgent appeal save to races in a savage or barbarous condition. Thus, disgust, as Richet has truly pointed out, necessarily decreases as knowledge increases.[1] As we analyze

[1] "Disgust," he remarks, "is a sort of synthesis which attaches to the total form of objects, and which must diminish and disappear as scientific analysis separates into parts what, as a whole, is so repugnant."

and understand our experiences better, so they cause us less disgust. A rotten egg is disgusting, but the chemist feels no disgust toward sulphuretted hydrogen; while a solution of propylamin does not produce the disgusting impression of that human physical uncleanliness of which it is the odorous constituent. As disgust becomes analyzed, and as self-respect tends to increased physical purity, so the factor of disgust in modesty is minimized. The factor of ceremonial uncleanliness, again, which plays so urgent a part in modesty at certain stages of culture, is to-day without influence except in so far as it survives in etiquette. In the same way the social-economic factor of modesty belongs to a stage of human development which is wholly alien to an advanced civilization. Even the most fundamental impulse of all, the gesture of sexual refusal, is normally only imperative among animals and savages. Thus civilization tends to subordinate, if not to minimize, modesty, to render it a grace of life rather than a fundamental social law of life. But an essential grace of life it still remains, and whatever delicate variations it may assume we can scarcely conceive of its disappearance.

THE PHENOMENA OF SEXUAL PERIODICITY.

I.

The Various Physiological and Psychological Rhythms—Menstruation—The Alleged Influence of the Moon—Frequent Suppression of Menstruation among Primitive Races—Mittelschmerz—Possible Tendency to a Future Intermenstrual Cycle—Menstruation among Animals—Menstruating Monkeys and Apes—What is Menstruation?—Its Primary Cause still Obscure—The Relation of Menstruation to Ovulation—The Occasional Absence of Menstruation in Health—The Relation of Menstruation to "Heat"—The Prohibition of Intercourse during Menstruation—The Predominance of Sexual Excitement at and around the Menstrual Period—Its Absence during the Period Frequently Apparent only.

Throughout the vegetable and animal worlds the sexual functions are periodic. From the usually annual period of flowering in plants, with its play of sperm-cell and germ-cell, and consequent seed-production, through the varying sexual energies of animals, up to the monthly effervescence of the generative organism in woman, seeking not without the shedding of blood for the gratification of its reproductive function, from first to last we find unfailing evidence of the periodicity of sex. At first the sun, and then, as some have thought, the moon, have marked throughout a rhythmic impress on the phenomena of sex. To understand these phenomena we have not only to recognize the bare existence of that periodic fact, but to realize its implications. Rhythm, it is scarcely necessary to remark, is far from characterizing sexual activity alone. It is the character of all biological activity, alike on the physical and the psychic sides. All the organs of the body appear to be in a perpetual process of rhythmic contraction and expansion. The heart is rhythmic, so is the respiration. The spleen is rhythmic, so also the bladder. The uterus constantly undergoes regular rhythmic contractions at brief intervals. The vascular system, down to the smallest capillaries, is acted on by three series of vibrations, and every separate fragment of muscular tissue pos-

sesses rhythmic contractility. Growth itself is rhythmic, and, as Malling-Hansen and subsequent observers have found, follows a regular annual course as well as a larger cycle. On the psychic sides attention is rhythmic. We are always irresistibly compelled to impart a rhythm to every succession of sounds, however uniform and monotonous. A familiar example of this is the rhythm we can seldom refrain from hearing in the puffing of an engine. A series of experiments by Bolton on thirty subjects showed that the clicks of an electric telephone connected in an induction-apparatus nearly always fell into rhythmic groups, usually of two or four, rarely of three or five, the rhythmic perception being accompanied by a strong impulse to make corresponding muscular movements.[1]

It is, however, with the influence—to some extent real, to some extent, perhaps, only apparent—of cosmic rhythm that we are here concerned. The general tendency, physical and psychic, of nervous action to fall into rhythm is merely interesting from the present point of view as showing a biological predisposition to accept any periodicity that is habitually imposed upon the organism.[2] Menstruation has always been associated with the lunar revolutions. Darwin, without specifically mentioning menstruation, has suggested that the explanation of the allied cycle of gestation in mammals, as well as incubation in birds, may be found in the condition under which ascidians live at high and low water in consequence of the phenomena of tidal change.[3] It must, however, be remembered that the ascidian origin of the vertebrates has since been contested from many sides, and, even if we admit that at all events some such allied conditions in the early history of vertebrates and their ancestors tended to impress a lunar cycle on the race, it must still be re-

[1] Thaddeus L. Bolton, "Rhythm," American Journal of Psychology, January, 1894.

[2] It is scarcely necessary to warn the reader that this statement does not prejudge the question of the inheritance of acquired characters. We can very well suppose that the organism became adjusted to the rhythms of its environment by a series of congenital variations. Or it might be held, on the basis of Weismann's doctrine, that the germ-plasm has been directly modified by the environment.

[3] Darwin, "Descent of Man," p. 164.

membered that the monthly periodicity of menstruation is almost exclusively human. Bearing in mind the influence exerted on both the habits and the emotions even of animals by the brightness of moonlight nights, it is perhaps not extravagant to suppose that, on organisms already ancestrally predisposed to the influence of rhythm in general and of cosmic rhythm in particular, the periodically recurring full moon, not merely by its stimulation of the nervous system, but possibly by the special opportunities which it gave for the exercise of the sexual functions, served to implant a lunar rhythm on menstruation. How important such a factor may be we have evidence in the fact that the daily life even of the most civilized peoples is still regulated by a weekly cycle which is apparently a segment of the cosmic lunar cycle.

Mantegazza has suggested that the sexual period became established with relation to the lunar period, because moonlight nights were favorable to courting,[1] and Nelson remarks that in his experience young and robust persons are subject to recurrent periods of wakefulness at nights which they attribute to the action of the full moon. One may perhaps refer also to the tendency of bright moonlight to stir the emotions of the young, especially at puberty, a tendency which in neurotic persons may become almost morbid.[2]

It is interesting to point out that, the farther back we are able to trace the beginnings of culture, the more important we find the part played by the moon. Next to the alternation of day and night, the moon's changes are the most conspicuous and startling phenomena of Nature; they first suggest a basis

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[1] Gason describes the dances and sexual festivals of the South Australian blacks, generally followed by promiscuous intercourse, as taking place at full moon. (Journal of the Anthropological Institute, November, 1894, p. 174.) In all parts of the world, indeed, including Christendom, festivals are frequently regulated by the phases of the moon.

[2] It has often been held that the course of insanity is influenced by the moon. Of comparatively recent years this thesis has been maintained by Koster ("Ueber die Gesetze des periodischen Irreseins und verwandter Nervenzustände," Bonn, 1882), who argues in detail that periodic insanity tends to fall into periods of seven days or multiples of seven.

for reckoning time; they are of the greatest use in primitive agriculture; and everywhere the moon is held to have vast influence on the whole of organic life. Hahn has suggested that the reason why mythological systems do not usually present the moon in the supreme position which we should expect is that its immense importance is so ancient a fact that it tends, with mythological development, to become overlaid by other elements.[1] Even in Babylonia, where the sun was most specially revered, at the earliest period the moon ranked higher, being gradually superseded by the worship of the sun.[2] Although such considerations as these will by no means take us as far back as the earliest appearance of menstruation, they may serve to indicate that the phases of the moon probably played a large part in the earliest evolution of man. With that statement we must at present rest content.

It is possible that the monthly character of menstruation, while representing a general tendency of the human race, always and everywhere prevalent, may be modified in the future. It is a noteworthy fact that among many primitive races menstruation only occurs at long intervals. Thus among Esquimau women menstruation follows the peculiar cosmic conditions to which the people are subjected: Cook, the ethnologist of the Peary North Greenland expedition, found that menstruation only began after the age of nineteen, and that it was usually suppressed during the winter months, when there is no sun, only about one in ten women continuing to menstruate during this period. It was stated by Velpeau that Lapland and Greenland women usually only menstruate every three months, or even only two or three times during the year. On the Faroe Islands it is said that menstruation is frequently absent. Among the Samoyeds Mantegazza mentions that menstruation is so slight that some travelers have denied its existence. Azara noted among the Guaranis of Paraguay that menstruation was not only slight in amount, but the periods were separated by long

[1] Ed. Hahn, "Demeter und Baubo," p. 23.
[2] Jastrow, "Religion of Babylonia," 1898, pp. 68, 75-79, 461.

intervals. Among the Indians in North America, again, menstruation appears to be scanty. Thus, Holder, speaking of his experience with the Crow Indians of Montana, says: "I am quite sure that full-blood Indians in this latitude do not menstruate so freely as white women, not usually exceeding three days."[1] Among the naked women of Tierra del Fuego, it is said that there is often no physical sign of the menses for six months at a time. These observations are noteworthy, though they clearly indicate, on the whole, that primitiveness in race is a very powerless factor without a cold climate. On the other hand, again, there is some reason to suppose that in Europe there is a latent tendency in some women for the menstrual cycle to split up further into two cycles, by the appearance of a latent minor climax in the middle of the monthly interval. I allude to the phenomena usually called *Mittelschmerz*, middle period, or intermenstrual pain.

Mittelschmerz is a condition of pain occurring about the middle of the intermenstrual period, either alone or accompanied by a sanguineous discharge, or else by a non-sanguineous discharge. The phenomenon varies, but seems usually to occur about the fourteenth day and to last two or three days. Laycock, in 1840 ("Nervous Diseases of Women," p. 46), gave instances of women with an intermenstrual period. Depaul and Gueniot ("Dictionnaire Encyclopédique des Sciences Médicales," article, "Menstruation," p. 694) speak of intermenstrual symptoms, and even actual flow, as occurring in women who are in a perfect state of health, and constituting genuine "*règles surnuméraires.*" The condition is, however, said to have been first fully described by Valleix; then, in 1872, by Sir William Priestley; and, subsequently, by Fehling, Fasbender, Sorel, Halliday Croom, Findley, Addinsell, and others. (See, for instance, "Mittelschmerz," by J. Halliday Croom, "Transactions of Edinburgh Obstetrical Society," vol. xxi, 1896. Also Krieger, "Menstruation," pp. 68-69.) Fliess ("Die Beziehungen zwischen Nase und weiblichen Geschlechts-Organen," p. 118) goes so far as to assert that an intermenstrual period of menstrual symptoms—which he terms *Nebenmenstruation*—is "a phenomenon well known to most healthy women." Observations are at present too few to allow any definite conclusions, and in some of the cases so far recorded a pathological condition of the sexual organs has been found to exist. There is no agreement as to

[1] A. B. Holder, "Gynecic Notes among American Indians," American Journal of Obstetrics, No. 6, 1892.

the cause of *Mittelschmerz*. Some, like Addinsell, have attributed it to disease of the Fallopian tubes. This, however, is denied by such competent authorities as Cullingworth and Bland Sutton. Others, like Priestley, and, more recently, Marsh (*American Journal of Obstetrics*, July, 1897), have sought to find the explanation in the occurrence of ovulation. This theory is, however, unsupported by facts, and eventually rests on the exploded belief that ovulation is the cause of menstruation. Others, again, like Armand Routh and MacLean, in the course of an interesting discussion on *Mittelschmerz* at the Obstetric Society of London, on the second of March, 1898, believe that we may trace here a double menstruation, and would explain the phenomenon by assuming that in certain cases there is an intermenstrual as well as a menstrual cycle. The question is not yet ripe for settlement, though it is fully evident that, looking broadly at the phenomena of rut and menstruation, the main basis of their increasing frequency as we rise toward civilized man is increase of nutrition, heat and sunlight being factors of nutrition. When dealing with civilized man, however, we are probably concerned not merely with general nutrition, but with the nervous direction of that nutrition.

At this stage it is natural to inquire what the corresponding phenomena are among animals. Unfortunately, imperfect as is our comprehension of the human phenomena, our knowledge of the corresponding phenomena among animals is much more fragmentary and incomplete. Among most animals menstruation does not exist, being replaced by what is variously known as rut, heat, or estrus, which usually occurs once or twice a year, in spring and in autumn, affecting the male as well as the female, except under domestication. There is, however, a great deal of progression in the upward march of the phenomena, as we approach our own and allied zoological series. Heat in domesticated cows usually occurs every three weeks. The female hippopotamus in the Zoological Gardens has been observed to exhibit monthly sexual excitement, with swelling and secretion from the vulva. Progression is not only toward greater frequency with higher evolution or with increased domestication, but there is also a change in the character of the flow. As Wiltshire,[1] in his remarkable lectures on the "Comparative Phys-

[1] A. Wiltshire, British Medical Journal, March, 1883. The best account of heat known to me is contained in Ellenberger's Vergleich. Phys. der Haussaugethiere, 1892, B. 4, Theil 2, pp. 276-284.

iology of Menstruation," asserted as a law, the more highly evolved the animal, the more sanguineous the catamenial flow.

It is not until we reach the monkeys that this character of the flow becomes well marked. Monthly sanguineous discharges have been observed among many monkeys. In the seventeenth century various observers in many parts of the world—Bohnius, Peyer, Helbigius, Van der Wiel, and others—noted menstruation in monkeys.[1] Buffon noted them among various monkeys as well as in the orang-outang. J. G. St. Hilaire and Cuvier, many years ago, declared that menstruation exists among a variety of monkeys and lower apes. Rengger described a vaginal discharge in a species of cebus in Paraguay, while Raciborski observed in the Jardin des Plantes that the menstrual hemorrhage in guenons was so abundant that the floor of the cage was covered by it to a considerable extent; the same variety of monkey was observed at Surinam, by Hill, a surgeon in the Dutch army, who noted an abundant sanguineous flow occurring at every new moon, and lasting about three days, the animal at this time also showing signs of sexual excitement.[2]

The macaque and the baboon appear to be the non-human animals in which menstruation has been most carefully observed. In the former, besides the flow, Bland Sutton remarks that "all the naked or pale-colored parts of the body, such as the face, neck, and ischial regions, assume a lively pink color; in some cases, it is a vivid red."[3] The flow is slight, but the coloring lasts several days, and in warm weather the labia are much swollen.

Heape[4] has most fully and carefully described menstruation in monkeys. He found at Calcutta that the *Macacus cynomolgus* menstruated regularly on the 20th of December, 20th of Janu-

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[1] Schurigius ("Parthenologia," 1729, p. 125), gives numerous references and quotations.

[2] Quoted by Icard, "La Femme," etc., p. 63.

[3] Bland Sutton. "Surgical Diseases of the Ovaries" and British Gynecological Journal, vol. ii.

[4] W. Heape, "The Menstruation of *Semnopithecus Entellus*," "Philosophical Transactions," 1894; "Menstruation and Ovulation of *Macacus Rhesus*," "Philosophical Transactions," 1897.

ary, and about the 20th of February. The *Cynocephalus porcaria* and the *Semnopithecus entellus* all menstruated each month for about four days. In the *Macaci rhesus* and *cynomolgus* at menstruation "the nipples and vulva become swollen and deeply congested, and the skin of the buttocks swollen, tense, and of a brilliant-red or even purple color. The abdominal wall also, for a short space upward, and the inside of the thighs, sometimes as far down as the heel, and the under-surface of the tail for half its length or more, are all colored a vivid red, while the skin of the face, especially about the eyes, is flushed or blotched with red." In late gestation the coloring is still more vivid. Something similar is to be seen in the males also.

Distant, who kept a female baboon for some time, has recorded the dates of menstruation during a year. He found that nine periods occurred during the year. The average length of the periods was nearly six weeks, but they occurred more frequently in the late autumn and the winter than in the summer.[1] It is an interesting fact that Heape noted that, notwithstanding menstruation, the seasonal influence, or rut, still persisted in the monkeys he investigated.

In the anthropoid apes Hartmann remarks that several observers have recorded periodic menstruation in the chimpanzee, with flushing and enlargement of the external parts, and protrusion of the external lips, which are not usually visible; while there is often excessive enlargement and reddening of these parts and of the posterior callosities during sexual excitement. Very little, however, appears to be definitely known regarding any form of menstruation in the higher apes. M. Deniker, who has made a special study of the anthropoid apes, informs me that he has so far been unable to make definite observations regarding the existence of menstruation. Moll remarks that he received information regarding such a phenomenon in the orang-outang. A pair of orang-outangs was kept in the Berlin Zoological Gardens some years ago, and the female was stated to have at intervals a menstrual flow resembling that of women, and during

[1] W. L. Distant, "Notes on the Chacma Baboon," Zoologist, p. 29, 1897.

this period to refrain from sexual congress, which was otherwise usually exercised at regular intervals, at least every two or three days: Moll adds, however, that, while his informant is a reliable man, the length of time that has elapsed may have led him to make mistakes in details. Keith, in a paper read before the Zoological Society of London, has recently described menstruation in a chimpanzee; it occurred every twenty-third or twenty-fourth day, and lasted for three days: the discharge was profuse, and first appeared in about the ninth or tenth year.[1]

What is menstruation? It is easy to describe it, by its obvious symptoms, as a monthly discharge of blood from the uterus, but nearly as much as that was known in the infancy of the world. When we seek to probe more intimately into the nature of menstruation we are still baffled, not merely as regards its cause, but even as regards its precise mechanism. It is no longer generally accepted that menstruation is the *débris* of an unduly proliferated epithelium which has undergone fatty degeneration, a process which we should expect to be continuous. Nor is it generally agreed (with A. W. Johnstone) that menstruation is simply a result of tonic changes produced in the uterus by the upright position. It is not even widely accepted that the main cause of menstruation is a rhythmic contraction of the uterus—the result of a disappointed preparation for impregnation—a kind of miniature childbirth.[2] "The primary cause of menstruation remains unexplained"; "the cause of menstruation remains as obscure as ever"; so conclude two of the most thorough and cautious investigators into this subject.[3] Fortunately, since we are here primarily concerned with its psychological aspects, the precise biological cause and physiological nature of menstruation do not greatly concern us.

There is, however, one point which of late years has been

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[1] Nature, March 23, 1899.

[2] This, however, seems to be the most reasonable view of menstruation: *i.e.*, as an abortion of a decidua. Burdach (according to Beard) was the first who described menstruation as an abortive parturition.

[3] W. Heape, "The Menstruation of *Semnopithecus Entellus*," "Philosophical Transactions," p. 483, 1894. Bland Sutton, "Surgical Diseases of the Ovaries," 1896.

definitely determined, and which should not be passed without mention: the relation of menstruation to ovulation. It was once supposed that the maturation of an ovule in the ovaries was the necessary accompaniment, and even cause, of menstruation. We now know that ovulation proceeds throughout the whole of life, even before birth, and during gestation,[1] and that removal of the ovaries by no means necessarily involves a cessation of menstruation. It has been shown that regular and even excessive menstruation may take place in the congenital absence of a trace of ovaries or Fallopian tubes.[2] On the other hand, a rudimentary state of the uterus, and a complete absence of menstruation, may exist with well-developed ovaries and normal ovulation.[3] We must regard the uterus as to some extent an independent organ, and menstruation as a process which arose, no doubt, with the object, teleologically speaking, of co-operating more effectively with ovulation, but has become largely independent.[4]

It is sometimes stated that menstruation may be entirely absent in perfect health. Few cases of this condition have, however, been recorded with the detail necessary to prove the assertion. One such case was investigated by Dr. H. W. Mitchell, and described in a paper read to the New York County Medical Society, February 22, 1892 (to be found in *Medical Reprints*, June, 1892). The subject was a young, unmarried woman, 24 years of age. She was born in Ireland, and, until her emigration, lived quietly at home with her parents. Being then twenty years of age, she left home and came to New York. Up to that time no signs of menstruation had appeared, and she had never heard

[1] Robinson, American Gynecological and Obstetrical Journal, August, 1895.

[2] Bossi, Annali di Ostet. e. Ginecol., September, 1896; summarized in the British Medical Journal, October 31, 1896.

[3] Beuttner, Centralblatt für Gynäkologie, No. 49, 1893; summarized in British Medical Journal, December, 1893. Many cases show that pregnancy may occur in the absence of menstruation. See, *e.g.*, Nouvelles Archives d'Obstétrique et de Gynécologie, 25 Janvier, 1894, supplement, p. 9.

[4] It is still possible, and even probable, that the primordial cause of both phenomena is the same. Heape (in a paper read before the Obstetrical Society of London, April 6, 1898) argues that both menstruation and ovulation are closely connected with and influenced by congestion, and that in the primitive condition they are largely due to the same cause.

that such a function existed. Soon after her arrival in New York she obtained a situation as a waiting-maid, and her fellow-servants in the house where she lived, and also her sister-in-law, noticed after a time that she was not unwell at each month. As is the habit of the uneducated, these friends filled her ears with wild stories about the dreadful effects likely to follow the absence of menstruation, and she was told that she would eventually become insane. This worried her greatly, and as a consequence she became pale and anæmic, with loss of flesh, appetite, and sleep, and she suffered from a long train of imaginary nervous symptoms.

On April 7, 1889, she presented herself for treatment. She insisted upon a uterine examination. This was made, but revealed no pathological condition of her uterus. She was told to pay no attention to the fact that she had never menstruated, and assured that she would not die, or become insane, nor a chronic invalid. In consequence she soon forgot that she differed in any way from other girls.

A course of chalybeate tonics, generous diet, and proper care of her general health soon restored her to her normal condition. She has been under close observation for several years since, and recently submitted to a thorough examination, although she was entirely free from any abnormal symptoms. The examination revealed the following facts touching her physical condition:—

Weight, 105 pounds (her weight before leaving Ireland was 130); girth of chest, twenty-nine and a half inches; girth of abdomen, twenty-five inches; girth of pelvis, thirty-four and a half inches; girth of thigh, upper third, twenty inches; heart healthy, sounds and rhythm perfectly normal; pulse, 76; lungs healthy, respiratory murmur clear and distinct over every part; respiration, easy and twenty per minute; the mammæ are well developed, firm, and round; nipples small, no areola; her skin is soft, smooth, and healthy; figure erect, plump, and symmetrical; her bowels are regular; kidneys, healthy. She has a good appetite, sleeps well, and in no particular shows any sign of ill health.

The uterine examination reveals a short vagina, and a small, round cervix uteri, rather less in size than the average, and projecting very slightly into the vaginal canal. Depth of uterus from os to fundus, two and a quarter inches. This would show that the organ is very nearly normal in size. There is no external sign of abnormal ovaries. This examination shows that she is a well-developed healthy young woman, performing all her physiological functions naturally and regularly, except the single function of menstruation. No vicarious menstruation takes the place of the natural function, though she has been watched very closely during the past two years, nor the least periodical excitement. It is added that, though the clitoris is normal, the mons veneris is almost destitute of hair, and the labia rather undeveloped, while, "as

far as is known," sexual instincts and desire are entirely absent. These latter facts, I may add, would seem to suggest that in spite of the health of the subject there is yet some concealed lack of development of the sexual system of congenital character. In a case recorded by Plant (*Centralblatt für Gynäkologie*, No. 9, 1896; summarized in the *British Medical Journal*, April 4, 1896), in which the internal sexual organs were almost wholly undeveloped and menstruation absent, the labia were similarly undeveloped, and the pubic hair scanty, while the axillary hair was wholly absent, though that of the head was long and strong.

We may now regard as purely academic the discussion formerly carried on as to whether menstruation may be regarded as analogous to heat in female animals. For many centuries at least the resemblance has been sufficiently obvious. Raciborski and Pouchet, who first established the regular periodicity of ovulation in mammals, identified rut and menstruation.[1] During the present century there has, notwithstanding, been an occasional tendency to deny any real connection. No satisfactory grounds for this conclusion have, however, been brought forward. Lawson Tait, indeed, and more recently Beard, have stated that menstruation cannot be the period of rut, because women have a disinclination to the approach of the male at that time.[2] But, as we shall see later, this statement is unfounded. An argument which might, indeed, be brought forward is the very remarkable fact that, while in animals the period of heat is the only period for sexual intercourse, among all human races, from the very lowest, the period of menstruation is the one period during which sexual intercourse is strictly prohibited, sometimes under severe penalties, even life itself. This, however, is a social, not a physiological, fact.

Ploss and Bartels call attention to the curious contrast, in this respect, between heat and menstruation. The same authors also mention that in the Middle Ages, however, preachers found it necessary to warn their hearers against the sin of intercourse during the menstrual period. It may be added that, of comparatively recent times,

[1] Pouchet, "Théorie de l'Ovulation Spontanée," 1847.

[2] Tait, Provincial Medical Journal, May, 1891; J. Beard, "The Span of Gestation," 1897, p. 69. Lawson Tait is reduced to the assertion that ovulation and menstruation are identical. As, however, ovulation is a continuous process throughout life, such a position is wholly indefensible.

Catholic theologians have regarded intercourse during menstruation as a sin. Icard ("La Femme," etc., p. 40) points out that some Catholic theologians have declared that intercourse during menstruation, if not a mortal sin, is at least a venial sin, and he refers especially to Cornelius A'Lapide. Sanchez, I may remark, states that many theologians consider it a mortal sin to seek intercourse during menstruation, but he does not himself consider it a mortal sin under any such circumstances.

We have here a remarkable, but not an isolated, example of the tendency of the human mind in its development to rebel against the claims of primitive nature. The whole of religion is a similar remolding of nature, a repression of natural impulses, an effort to turn them into new channels. Prohibition of intercourse during menstruation is a fundamental element of savage ritual, an element which is universal merely because the conditions which caused it are universal, and because—as is now beginning to be generally recognized—the causes of human psychic evolution are everywhere the same. A strictly analogous phenomenon in the sexual sphere itself is the opposed attitude in barbarism and civilization toward the sexual organs. Under barbaric conditions and among savages, when no religious ideas intervene, the sexual organs are beautiful and pleasurable objects. Under modern conditions this is not so. This difference of attitude is reflected in sculpture. In savage and barbaric carvings of human beings the sexual organs of both sexes are often enormously exaggerated. This is true of the archaic European figures on which Salomon Reinach has thrown so much light, but in modern sculpture, from the time when it reached its perfection in Greece onward, the sexual regions in both men and women are systematically minimized.[1]

With advancing culture—as again we shall see later—there is a conflict of claims, and certain considerations are regarded as "higher" and more potent than merely "natural" claims. Nakedness is more natural than clothing, and on many grounds more desirable under the average circumstances of life, yet,

[1] As Moll points out, even the secondary sexual characters have undergone a somewhat similar change. The beard was once an important sexual attraction, but men can now afford to dispense with it without fear of loss in attractiveness. "Libido Sexualis," B. 1, p. 387.

everywhere, under the stress of what are regarded as higher considerations, there is a tendency for all races to add more and more to the burden of clothes. In the same way it happens that the tendency of the female to sexual intercourse during menstruation[1] has everywhere been overlaid by the ideas of a culture which have insisted on regarding menstruation as a supernatural phenomenon which, for the protection of everybody, must be strictly tabooed.[2] This tendency is reinforced, and in high civilization replaced, by the claims of an esthetic regard for concealment and reserve during this period. Such facts are significant for the early history of culture, but they must not blind us to the real analogy between heat and menstruation, an analogy or even identity which may be said to be accepted now by most careful investigators.[3]

If it is, perhaps, somewhat excessive to declare, with Johnstone, that "woman is the only animal in which rut is omnipresent," we must admit that the two groups of phenomena merge into or replace each other, that their object is identical, that they involve similar psychic conditions. Here, also, we see a striking example of the way in which women preserve a primitive phenomenon which earlier in the zoological series was common to both sexes, but which man has now lost. Heat and menstruation, with whatever difference of detail, are practically the same phenomenon. We cannot understand menstruation unless we bear this in mind.

On the psychic side the chief normal and primitive characteristic of the menstrual state is the more predominant presence of the sexual impulse. There are other mental and emotional signs of irritability and instability which tend to slightly impair complete mental integrity and to render in some unbalanced individuals explosions of anger or depression, in rarer cases crime,

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[1] It is not absolutely established that in menstruating animals the period of menstruation is always a period of sexual congress; probably not, the influence of menstruation being diminished by the more fundamental influence of breeding seasons, which affect the male also.

[2] See Appendix A.

[3] Bland Sutton, *loc. cit.*, p. 896.

more common;[1] but the heightening of the sexual impulse, languor, shyness, and caprice are the more human manifestations of an emotional state which in some of the lower female animals during heat may produce a state of fury.

The actual period of the menstrual flow, at all events the first two or three days, does not among European women usually appear to show any heightening of sexual emotion.[2] This heightening occurs usually a few days before and also during the latter part of the flow, and immediately after it ceases. I have, however, convinced myself by inquiry that this absence of sexual feeling during the height of the flow is, in large part, apparent only. No doubt, the onset of the flow, producing a general depression of vitality, may tend directly to depress the emotions, which are heightened by the general emotional state and local congestion of the days immediately preceding; but among some women, at all events, who are normal and in good health, I find that the period of menstruation itself is the period of the climax of sexual feeling. Thus, a married lady writes: "My feelings are always very strong, not only just before and after, but during the period; very unfortunately, as, of course, they cannot then be gratified"; while a refined girl of 19, living a chaste life, without either coitus or masturbation, which she has never practiced, habitually feels very strong sexual excitement about the time of menstruation, and more especially during the period; this desire torments her life, prevents her from sleeping at these times, and she looks upon it as a kind of illness.[3] I could quote many other similar and equally emphatic statements, and the fact that

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[1] For a sketch of the general psychic state during menstruation, see H. Ellis, "Man and Woman," Chapter XI, "The Functional Periodicity of Women."

[2] This is by no means true of European women only. Thus we read in an Arabic book, "The Perfumed Garden," that women have an aversion to coitus during menstruation. On the other hand, the old Hindoo physician, Susruta, appears to have stated that the tendency to run after men is one of the signs of menstruation.

[3] It may be noted that (as Barnes, Oliver, and others have pointed out) there is heightened blood-pressure during menstruation. Haig remarks that he has found a tendency for high pressure to be accompanied by increased sexual appetite ("Uric Acid," 4th edition, 1897, p. 129).

so cardinal a relationship of the sexual life of women should be ignored or denied by most writers on this matter is a curious proof of the prevailing ignorance.[1]

This ignorance has been fostered by the fact that women often disguise even to themselves the real state of their feelings. One lady remarks that while she would be very ready for coitus during menstruation, the thought that it is impossible during that time makes her put the idea of it out of her mind. I have reason to think that this statement may be taken to represent the real feelings of very many women. The aversion to coitus is real, but it is often due, not to failure of sexual desire, but to the inhibitory action of powerful extraneous causes. The absence of active sexual desire in women during the height of the flow may thus be regarded as to some extent a physiological fact due to the languor produced by the process, and in much larger degree a psychological fact due to the esthetic repugnance to union when in such a condition, and to the unquestioned acceptance of the general belief that at such a period intercourse is out of the question. Some of the strongest factors of modesty, especially the fear of causing disgust and the sense of the demands of ceremonial ritual, would thus help to hold in check the sexual emotions during this period, and when, under the influence of insanity, these motives are in abeyance, the coincidence of sexual desire with the menstrual flow often becomes more obvious.

It must be added that, especially among the lower social classes, the primitive belief of the savage that coitus during menstruation is bad for the man still persists. Ploss and Bartels mention that among the peasants in some parts of Germany,

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[1] Sir W. F. Wade, however, remarked, some years ago in his Ingleby Lectures (Lancet, June 5, 1886): "It is far from exceptional to find that there is an extreme enhancement of concupiscence in the immediate precatamenial period," and adds, "I am satisfied that evidence is obtainable that in some instances ardor is at its maximum during the actual period, and suspect that cases occur in which it is almost, if not entirely, limited to that time." Long ago, however, the genius of Haller had noted the same fact. More recently, Icard ("La Femme," Chapter VI and elsewhere: *e.g.*, p. 125) has brought forward much evidence in confirmation of this view.

where it is believed that impregnation is impossible during menstruation, coitus at that time would be frequent were it not thought dangerous for the man.[1] It has also been a common belief both in ancient and modern times that coitus during menstruation engenders monsters.[2] Notwithstanding all the obstacles that are thus placed in the way of coitus during menstruation, there is nevertheless good reason to believe that the first coitus very frequently takes place at this point of least psychic resistance. When still a student I was struck by the occurrence of cases in which seduction took place during the menstrual flow, though at that time they seemed to me inexplicable, except as evidencing brutality on the part of the seducer. Négrier,[3] in the lying-in wards of the Hôtel-Dieu at Angers, constantly found that the women from the country who came there pregnant as the result of a single coitus had been impregnated at or near the menstrual epoch, more especially when the period coincided with a feast-day, as St. John's Day or Christmas.

Whatever doubt may exist as to the most frequent state of the sexual emotions during the period of menstruation, there can be no doubt whatever that immediately before and immediately after, or more commonly at both times—this varying slightly in different women—there is usually a marked heightening of actual desire.[4] It is at this period (and sometimes during the menstrual flow) that masturbation usually takes place in women who at other times have no strong auto-erotic impulse. The only women who do not show this heightening

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[1] It is possible there may be an element of truth in this belief. Diday, of Lyons, found that chronic urethorrhea is an occasional result of intercourse during menstruation. Raciborski ("Traité de la Menstruation," 1868, p. 12), who also paid attention to this point, while confirming Diday, came to the conclusion that some special conditions must be present on one or both sides.

[2] See, *e.g.*, Ballantyne, "Teratogenesis," "Transactions of the Edinburgh Obstetrical Society," 1896, vol. xxi, pp. 324-25.

[3] As quoted by Icard, "La Femme," etc., p. 194. I have not been able to see Négrier's work.

[4] The advice of Hippocrates concerning sterile women, "Let the husband approach at the beginning of the monthly purgation," was probably a medical recognition of the fact that this was the period when the woman felt most apt for coitus.

of sexual emotion seem to be those in whom sexual feelings have not yet been definitely called into consciousness, or the small minority, usually suffering from some disorder of sexual or general health, in whom there is a high degree of sexual anesthesia.[1]

The majority of authorities admit a heightening of sexual emotion before or after the menstrual crisis. See, *e.g.*, Krafft-Ebing, who places it at the post-menstrual period ("Psychopathia Sexualis," eighth edition, p. 24). Even this elementary fact of the sexual life has, however, been denied, and, strange to say, by two women doctors. Dr. Mary Putnam Jacobi, of New York, who has furnished valuable contributions to the physiology of menstruation, in a paper on "The Theory of Menstruation," wrote some years ago in reference to the question of the connection between œstrus and menstruation: "Neither can any such rhythmical alteration of sexual instinct be demonstrated in women as would lead to the inference that the menstrual crisis was an expression of this"; *i.e.*, of estrus. Dr. Elizabeth Blackwell, again, in her book on "The Human Element in Sex," asserts that the menstrual flow itself affords complete relief for the sexual feelings in women (like sexual emissions during sleep in men), and thus practically denies the prevalence of sexual desire in the immediately post-menstrual period, when, on such a theory, sexual feeling should be at its minimum. It is fair to add that Dr. Blackwell's opinion is merely the survival of a view which was widely held nearly a century ago, when various writers (Bordeu, Roussel, Duffieux, J. Arnould, etc.), as Icard has pointed out, regarded menstruation as a device of Providence for safeguarding the virginity of women.

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[1] The debated question as to the prevalence of sexual anesthesia in women does not properly call for discussion here. I shall deal with it elsewhere.

II.

The Question of a Monthly Sexual Cycle in Men—The Earliest Suggestions of a General Physiological Cycle in Men—Periodicity in Disease—Insanity, Heart Disease, etc.—The Alleged Twenty-three Days' Cycle—The Physiological Periodicity of Seminal Emissions during Sleep—Original Observations—Fortnightly and Weekly Rhythms.

For some centuries, at least, inquisitive observers here and there have thought they found reason to believe that men as well as women present various signs of a menstrual physiological cycle. It would be possible to collect a number of opinions in favor of such a monthly physiological periodicity in men. Precise evidence, however, is, for the most part, lacking. Men have expended infinite ingenuity in establishing the remote rhythms of the solar system and the periodicity of comets. They have disdained to trouble about the simpler task of proving or disproving the cycles of their own organisms.[1] It is over half a century since Laycock wrote that "the *scientific* observation and treatment of disease are impossible without a knowledge of the mysterious revolutions continually taking place in the system"; yet the task of summarizing the whole of our knowledge regarding these "mysterious revolutions" is even to-day no heavy one. As to the existence of a monthly cycle in the sexual instincts of men, with a single exception, I am not aware that any attempt has been made to bring forward definite evidence. A certain interest and novelty attaches, therefore, to the evidence I am able to produce, although that evidence will not suffice to settle the question finally.

The great Italian physician, Sanctorius, who was in so many ways the precursor of our modern methods of physiological re-

[1] Even counting the pulse is a comparatively recent method of physiological examination. It was not until 1450 that Nicolas of Cusa advocated counting the pulse-beats. (Binz, Deutsche medicinische Wochenschrift, October 6, 1898.)

search by the means of instruments of precision, was the first, so far as I am aware, to suggest a monthly cycle of the organism in men. He had carefully studied the weight of the body with reference to the amount of excretions, and believed that a monthly increase in weight to the amount of one or two pounds occurred in men, followed by a critical discharge of urine, this crisis being preceded by feelings of heaviness and lassitude.[1] Gall, another great initiator of modern views, likewise asserted a monthly cycle in men. He insisted that there is a monthly critical period more marked in nervous people than in others, and that at this time the complexion becomes dull, the breath stronger, digestion more laborious, while there is sometimes disturbance of the urine, together with general *malaise*, in which the temper takes part; ideas are formed with more difficulty, and there is a tendency to melancholy, with unusual irascibility and mental inertia, lasting a few days. More recently Stephenson, who established the cyclical wave-theory of menstruation, argued that it exists in men also, and is really "a general law of vital energy."[2]

Sanctorius does not appear to have published the data on which his belief was founded. Keill, an English follower of Sanctorius, in his "Medicina Statica Britannica" (1718), published a series of daily (morning and evening) body-weights for the year, without referring to the question of a monthly cycle. A period of maximum weight is shown usually by Keill's figures to occur about once a month, but it is generally irregular, and cannot usually be shown to occur at definite intervals. Monthly discharges of blood from the sexual organs and other parts of the body in men have been recorded in ancient and modern times, and were treated of by the older medical writers as an affliction peculiar to men with a feminine system. (Laycock, "Nervous Diseases of Women," p. 79). A summary of such cases will be found in Gould and Pyle ("Anomalies and Curiosities of Medicine," 1897, pp. 27-28). Laycock (*Lancet*, 1842-43, vols. i and ii) brought forward cases of monthly and fortnightly cycles in disease, and asserted "the general principle that there are greater and less cycles of movements going on in the system, involving each other, and closely connected with the organization of the individual." He was inclined to accept lunar influ-

[1] Sanctorius, "Medicina Statica," Sect. I, aph. lxv.
[2] American Journal of Obstetrics, xiv, 1882.

ence, and believed that the physiological cycle is made up of definite fractions and multiples of a period of seven days, especially a unit of three and a half days. Albrecht, a somewhat erratic zoologist, put forth the view a few years ago that there are menstrual periods in men, giving the following reasons: (1) males are rudimentary females, (2) in all males of mammals a rudimentary masculine uterus (Müller's ducts) still persists, (3) totally hypospadic male individuals menstruate; and believed that he had shown that in man there is a rudimentary menstruation consisting in an almost monthly periodic appearance, lasting for three or four days, of white corpuscles in the urine (*Anomalo*, February, 1890). Dr. Campbell Clark some years since made observations on asylum attendants in regard to the temperature, during five weeks, which tended to show that the normal male temperature varies considerably within certain limits, and that "so far as I have been able to observe, there is one marked and prolonged rise every month or five weeks, averaging three days, occasional lesser rises appearing irregularly and of shorter duration. These observations are only made in three cases, and I have no proof that they refer to the sexual appetite" (Campbell Clark, "The Sexual Reproductive Functions," Psychological Section, British Medical Association, Glasgow, 1888; also private letters). Hammond ("Treatise on Insanity," p. 114) says: "I have certainly noted in some of my friends the tendency to some monthly periodic abnormal manifestations. This may be in the form of a headache, or a nasal hemorrhage, or a diarrhea, or abundant discharge of uric acid, or some other unusual occurrence. I think," he adds, "this is much more common than is ordinarily supposed, and a careful examination or inquiry will generally, if not invariably, establish the existence of a periodicity of the character referred to."

Dr. Harry Campbell, in his book on "Differences in the Nervous Organizations of Men and Women," deals fully with the monthly rhythm (pp. 270 *et seq.*), and devotes a short chapter to the question "Is the Menstrual Rhythm peculiar to the Female Sex?" He brings forward a few pathological cases indicating such a rhythm, but although he had written a letter to the *Lancet*, asking medical men to supply him with evidence bearing on this question, it can scarcely be said that he has brought forward much evidence of a convincing kind, and such as he has brought forward is purely pathological. He believes, however, that we may accept a monthly cycle in men. "We may," he concludes, "regard the human being—both male and female—as the subject of a monthly pulsation which begins with the beginning of life and continues till death," menstruation being regarded as a function accidentally ingrafted upon this primordial rhythm.

It is not unreasonable to argue that the possibility of such a menstrual cycle is increased if we can believe that in women also the

menstrual cycle persists even when its outward manifestations no longer occur. Aëtius said that menstrual changes take place during gestation; in more modern times Buffon was of the same opinion. Laycock also maintained that menstrual changes take place during pregnancy ("Nervous Diseases of Women," p. 47). Fliess considers that it is certainly incorrect to assert that the menstrual process is arrested during pregnancy, and he refers to the frequency of monthly epistaxis and other nasal symptoms throughout this period (W. Fliess, "Beziehungen zwischen Nase und Geschlechts-Organen," pp. 44 *et seq.*). Beard, who attaches importance to the persistence of a cyclical period in gestation, calls it the muffled striking of the clock. Harry Campbell ("Causation of Diseases," p. 54) has found post-climacteric menstrual rhythm in a fair sprinkling of cases up to the age of sixty.

It is somewhat remarkable that, so far as I have observed, none of these authors refer to the possibility of any heightening of the sexual appetite at the monthly crisis which they believe to exist in men. This omission indicates that, as is suggested by the absence of definite statements on the matter of increase of sexual desire at menstruation, it was an ignored or unknown fact. Of recent years, however, many writers, especially alienists, have stated their conviction that sexual desire in men tends to be heightened at approximately monthly intervals. They have, however, generally been unable to give definite evidence in support of their statements.

Clouston, for instance, has frequently asserted this monthly periodic sexual heightening in men. In the article "Developmental Insanity," in Tuke's "Psychological Dictionary," he refers to the periodic physiological heightening of the reproductive *nisus*; and, again, in an article on "Alternation, Periodicity, and Relapse in Mental Diseases" (*Edinburgh Medical Journal*, July, 1882), he records the case of "an insane gentleman, aged 49, who, for the past twenty-six years, has been subject to the most regularly occurring brain-exaltation every four weeks almost to a day. It sometimes passes off without becoming acutely maniacal or even showing itself in outward acts; at other times it becomes so, and lasts for periods of from one to four weeks. It is always preceded by an uncomfortable feeling in the head and pain in the back, mental hebetude, and slight depression. The *nisus generativus* is greatly increased, and he says that, if in that condition he has full and free seminal emissions during sleep, the excitement passes off; if not, it goes on. A full dose of bromide or iodide of potassium often, but not always, has the effect of stopping the excitement, and a very long walk some-

times does the same. When the excitement gets to a height, it is always followed by about a week of stupid depression." In the same article Clouston remarks: "I have for a long time been impressed with the relationship of the mental and bodily alternations and periodicities in insanity to the great physiological alternations and periodicities, and I have generally been led to the conclusion that they are the same in all essential respects, and only differ in degree of intensity or duration. By far the majority of the cases in women follow the law of the menstrual and sexual periodicity; the majority of the cases in men follow the law of the more irregular periodicities of the *nisus generativus* in that sex. Many of the cases in both sexes follow the seasonal periodicity which perhaps in man is merely a reversion to the seasonal generative activities of the majority of the lower animals." He found that among 338 cases of insanity, chiefly mania and melancholia, 46 per cent. of females and 40 per cent. of males showed periodicity,—diurnal, monthly, seasonal, or annual, and more marked in women than in men and in mania than in melancholia,—and adds: "I found that the younger the patient, the greater is the tendency to periodic remission and relapse. The phenomenon finds its acme in the cases of pubescent and adolescent insanity."

Conolly Norman, in the article "Mania, Hysterical" (Tuke's "Psychological Dictionary"), states that "the activity of the sexual organs is probably in both sexes fundamentally periodic."

It is in the domain of disease that the most strenuous and, on the whole, the most successful efforts have been made to discover a menstrual cycle in men. Such a field seems promising at the outset, for many morbid exaggerations or defects of the nervous system might be expected to emphasize, or to free from inhibition, fundamental rhythmical processes of the organism which in health, and under the varying conditions of social existence, are overlaid by the higher mental activities and the pressure of external stimuli. Thus, many writers have brought forward evidence, especially in the domain of nervous and mental disease, which seems to justify a belief that, under pathological conditions, a tendency to a male menstrual rhythm might be clearly laid bare.

We should expect an organ so primitive in character as the heart, and with so powerful a rhythm already stamped upon its nervous organization, to be peculiarly apt to display a menstrual rhythm under the stress of abnormal conditions. This expectation might be strengthened by the menstrual rhythm which Mr.

Perry-Coste has found reason to suspect in pulse-frequency during health. I am able to present a case in which such a periodicity seems to be indicated. It is that of a gentleman who suffered severely for some years before his death from valvular disease of the heart, with a tendency to pulmonary congestion, and attacks of "cardiac asthma." His wife, a lady of great intelligence, kept notes of her husband's condition, and at last observed that there was a certain periodicity in the occurrence of the exacerbations. The periods were not quite regular, but show a curious tendency to recur at about thirty days' interval, a few days before the end of every month. It is noteworthy that the subject showed a tendency to periodicity when in health, and once remarked laughingly before his illness: "I am just like a woman, always most excitable at a particular time of the month."

I here reproduce the notes:—

"On July 31, 1896, after a spell of very hot and trying weather, and after feeling very seedy for several days, my husband began to have very bad nights. For the first five days of August he got practically no sleep at night, but spent the time wandering about. On August 6th severe rheumatic pains in the left shoulder came on in the evening, lasting all night. The nights of 7th and 8th were spent in agony, the pain dying away in the day-time. On the evening of the 9th he was given an injection of morphia, which completely removed the pain.

"Though feeling far from well, my husband went on with his work till the 20th, when he became seriously ill. That day was passed in alternate fits of gasping for breath and what was almost coma. He was very ill till the 31st, with difficulty of breathing, some congestion of the left lung, and long intervals of a sort of state which I hardly know how to describe,—a state between sleep and unconsciousness. He got better after the 1st: the congestion ceased, and the comatose state passed off, but he was troubled with fainting fits and attacks of gasping for breath, generally occurring in the afternoon or evening, but not more than one in twenty-four hours.

"On the 24th of September, however, he had no fewer than three fainting fits.

"On the 25th.—One fainting fit.

"On the 28th.—One fainting fit.

"On the 30th.—Great difficulty in breathing.

"October 1st.—Great difficulty in breathing.

"3d.—Much better. Very fairly well till the

"25th, when he fainted in the carriage while we were driving.

"26th.—Two fainting fits. Fairly well comparatively till

"November 24th.—Pulse high all day, breathing very labored.

"25th.—Breathing very troublesome.

"27th.—Very seedy all day; pulse high; half-asleep.

"29th.—Breathing very bad.

"30th.—Breathing very difficult.

"December 2d.—Half-asleep all day, but breathing easier.

"3d.—Better.

"4th.—A terrible night, acute congestion of both lungs lasting three hours.

"5th.—Second attack of congestion. Breathing very difficult all day.

"Much better on the whole, till

"26th.—Very nervous.

"27th.—Greatly troubled with indigestion; breathing troublesome.

"1897.—There was such a decided improvement in January that he decided to go back to work at the beginning of February.

"January 26th.—Breathing rather difficult.

"29th.—Breathing rather difficult. Pulse, 120.

"February.—Was not such a good month, but no very bad symptoms till

"25th.—Was seized in the night with acute congestion lasting three hours. Pulse, 150.

"26th.—Breathing troublesome.

"27th.—Breathing troublesome.

"28th.—Breathing troublesome occasionally.

"Better, but not very well, till

"March 8th.—Acute congestion in the night, lasting about an hour.

"9th.—At 11 P.M. attack of congestion.

"Fairly well till

"26th.—Very drowsy all day, great pains in arms and across chest. A little feverish.

"April 27th.—Not at all well; pulse very variable; felt sick all day.

"29th.—Felt seedy and sick all day; very nervous; not at all well till May 3d, when improved till

"May 21st.—Acute congestion at 3 A.M. to 5.

"26th.—Breathing troublesome all day.

"June 25th.—Bad night; breath troublesome; slight crackling sound in lungs. Pulse, 120. Not at all well till July 5th, then fairly well till

"July 22d.—Bad night; shortness of breath; pain in arms and pain and tightness across chest.

"23d.—A good deal of shortness of breath; not well till 29th.

"August was a very good month.

"August 26th.—A little shortness of breath.

"27th.—A little shortness of breath. Nausea.

"28th.—Feelings of light-headedness.

"September was a good month, no very marked symptoms.

"October 21st.—Great drowsiness all day, pain across chest and shoulders, relieved by ether.

"25th.—Very drowsy, a good deal of panting.

"26th.—A little panting occasionally.

"28th.—A little panting several times in night.

"29th.—Panting and shortness of breath.

"On November 1st he got some news which greatly excited him, and, whether as the result or not, was a good deal troubled with panting and shortness of breath till

"November 14th.—Attack of congestion 4.30 A.M. to 5.30. Pulse very weak, 140. Rather a bad month all through.

"25th.—Slight congestion 6.30 A.M. to 8; great pain in arms, chest, and shoulders.

"26th.—Breathing very troublesome. Pulse very rapid all night.

"27th.—Felt very sick nearly all day.

"28th.—Very nervous.

"29th.—Breathing troublesome.

"December 2d.—At 2.30 A.M. woke very nervous; pulse, 130; slight congestion. After 4th health greatly improved till

"24th.—Woke very seedy; hacking cough; brought up large clots of phlegm stained with blood; relieved by ether.

"25th.—Drowsy, but no other bad symptoms.

"27th.—Breathing a little troublesome; fairly well, till

"January 7th, 1898.—A bad night, slight crackling sound in left lung, relieved by ether.

"8th.—Pain in arms, much panting and difficulty in breathing.

"Very fairly well till

"25th.—Drowsy all day.

"26th.—Woke at 6 A.M. panting, crackling sound in left lung; very drowsy all day.

"Very fairly well from 28th to

"February 24th.—When he awoke at 7, with pain and a feeling as of an iron hand across the chest. Slight sound in left lung.

"25th.—A little panting.

"I have mentioned 'drowsiness' whenever it occurred in the diary, because it is always accompanied by irregular breathing, though he may not be conscious himself of any difficulty.

"Since May 21, 1897, iodide of potassium has been taken regularly;

before that it was only given occasionally. The improvement since then in the general health has been very great, though it does not come out very clearly in the diary. The dropsical swelling of the feet is much better, and is always worse a few days after each attack of congestion, getting gradually better till the next attack.

"Our life has been reduced to the lowest possible level of monotony and regularity. There is nothing in it to account for any selection of dates."

[I received the foregoing notes during the patient's life.]

"There was slight congestion of left lung on 3d and 4th March, but this may have been due to a sudden fall in the temperature, and cold winds on 1st and 2d. On 5th, 6th, and 7th nervousness, shortness of breath, and a feeling as if a fit of congestion were coming on.

"A very good month onward to 24th, when again 'slight congestion' is down.

"Very fairly well till April 23d."

The patient died on the 25th of this month.

At this point it is necessary to refer to an investigation which, although of very limited extent, serves to place the question of a male menstrual cycle for the first time on a sound basis. If there is such a cycle analogous to menstruation in women, it must be a recurring period of nervous erethism, and it must be demonstrably accompanied by greater sexual activity. In the *American Journal of Psychology* for 1888, Mr. Julius Nelson, afterward Professor of Biology at the Rutgers College of Agriculture, New Brunswick, published a study of dreams in which he recorded the results of detailed observations of his dreams, and also of seminal emissions during sleep (by him termed "gonekbole" or "ecbole"), during a period of something over two years. Mr. Nelson found that both dreams and ecboles fell into a physiological cycle of 28 days. The climax of maximum dreaming (as determined by the number of words in the dream record) and the climax of maximum ecbole fell at the same point of the cycle, the ecbolic climax being more distinctly marked than the dream climax.

The question of cyclic physiological changes is considerably complicated by our uncertainty regarding the precise length of the cycle we

may expect to find. Nelson finds a 28-day cycle satisfactory. Perry-Coste, as we shall see, accepts a strictly lunar cycle of 29 ½ days. Fliess has argued that in both women and men many physiological facts fall into a cycle of 23 days, which he calls male, the 28-day cycle being female (W. Fliess, "Die Beziehungen zwischen Nase und weiblichen Geschlechts-Organen," 1897, pp. 113 *et seq.*). Although Fliess brings forward a number of minutely-observed cases, I cannot say that I am yet convinced of the reality of this 23-day cycle.

It is somewhat curious that at the same time as Fliess, though in apparent independence and from a different point of view, another worker has also suggested that there is a 23-day physiological cycle (John Beard, "The Span of Gestation and the Cause of Birth," Jena, 1897). Beard approaches the question from the embryological standpoint, and argues that there is what he terms an "ovulation unit" of about 23 ½ days, in the interval from the end of one menstruation to the beginning of the next. Two "ovulation units" make up one "critical unit," and the length of pregnancy, according to Beard, is always a multiple of the "critical unit"; in man the gestation period amounts to six critical units.

These attempts to prove a new physiological cycle deserve careful study and further investigation. The possibility of such a cycle should be borne in mind, but at present we are scarcely entitled to accept it.

So far as I am aware, Professor Nelson's very interesting series of observations, which, for the first time, placed the question of a menstrual rhythm in men on a sound and workable basis, have not directly led to any further observations. I am, however, in possession of a much more extended series of ecbolic observations completed before Mr. Nelson's paper was published, although the results have only been calculated at a comparatively recent date. I now propose to present a summary of these observations, and consider how far they confirm Mr. Nelson's conclusions. These observations cover no less a period than twelve years, between the ages of 17 and 29, the subject being a student, and afterward schoolmaster, who appears to have led, on the whole, a chaste life. So far as appears, the records have been faithfully made throughout the whole of this long period. Here, if anywhere, should be material for the construction of a menstrual rhythm on an ecbolic basis. While the results are in many respects instructive, it can scarcely, perhaps, be said that they

absolutely demonstrate a monthly cycle. When summated in a somewhat similar manner to that adopted by Professor Nelson in his ecbolic observations, it is not difficult to regard the maximum, which is reached on the 19th to 21st days of the summated physiological month, as a real menstrual ecbolic climax, for no other three consecutive days at all approach these in number of ecboles, while there is a marked depression occurring four days earlier, on the 16th day of the month. If, however, we split up the curve by dividing the period of twelve years into two nearly equal periods, the earlier of about seven years and the latter of about four years, and summate these separately, the two curves do not present any parallel as regards the menstrual cycle. It scarcely seems to me, therefore, that these curves present any convincing evidence in this case of a monthly ecbolic cycle (and, therefore, I refrain from reproducing them), although they seem to suggest such a cycle. Nor is there any reason to suppose that by adopting a different cycle of thirty days, or of twenty-three days, any more conclusive results would be obtained.

It seems, however, when we look at these curves more closely, that they are not wholly without significance. If I am justified in concluding that they scarcely demonstrate a monthly cycle, it may certainly be added that they show a rudimentary tendency for the ecboles to fall into a fortnightly rhythm, and a very marked and unmistakable tendency to a weekly rhythm. The fortnightly rhythm is shown in the curve for the earlier period, but is somewhat disguised in the curve for the total period, because the first climax is spread over two days, the 7th and 8th of the month. If we readjust the curve for the total period by presenting the days in pairs, the fortnightly tendency is more clearly brought out (Chart 1).

A more pronounced tendency still is traceable to a weekly rhythm. This is, indeed, the most unquestionable fact brought out by these curves. All the maxima occur on Saturday or Sunday, with the minima on Tuesday, Wednesday, Thursday, or Friday. This very pronounced weekly rhythm will serve to swamp more or less completely any monthly rhythm on a 28-day basis. Although here probably seen in an exaggerated form, it is almost

certainly a characteristic of the ecbolic curve generally.[1] I have been told by several young men and women, especially those who work hard during the week, that Saturday, and especially Sunday afternoon, are periods when the thoughts spontaneously go in an erotic direction, and at this time there is a special tendency to masturbation or to spontaneous sexual excitement. It is on Friday, Saturday, Sunday, and Monday, according to Guerry's tables,[2] that the fewest suicides are committed, Tuesday, Wednesday, and Thursday, with, however, a partial fall on Wednesday, those on which most suicides are committed, so that there would appear to be an antagonism between sexual activity and the desire to throw off life. It also appears (in the reports of the Bavarian factory inspectors) that accidents in factories have a tendency to occur chiefly at the beginning of the week, and toward the end rather than in the middle.[3] Even growth, as Fleischmann has shown in the case of children, tends to fall into weekly cycles. It is evident that the nervous system is profoundly affected by the social influences resulting from the cosmic week.

The analysis of this series of ecbolic curves may thus be said to recall the suggestion of Laycock, that the menstrual cycle is really made up of four weekly cycles, the periodic unit, according to Laycock, being three and one-half days. I think it would, however, be more correct to say that the menstrual cycle, perhaps originally formed with reference to the influence of the moon on the sexual and social habits of men and other animals, tends to break up by a process of segmentation into fortnightly and weekly cycles. If we are justified in assuming that there is a male menstrual cycle, we must conclude that in such a case as that just analyzed the weekly rhythm has become so marked as almost entirely to obliterate the larger monthly rhythm.

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[1] Moll refers to the case of a man whose erotic dreams occurred every fortnight, and always on Friday night ("Libido Sexualis," B. 1, p. 136). One is inclined to suspect an element of autosuggestion in such a case; still the coincidence is noteworthy.

[2] See Durkheim, "Le Suicide," p. 101.

[3] We must, of course, see here the results of the disorganization produced by holidays and the exhaustion produced by the week's labor; but such influences are still the social effects of the cosmic week.

However constituted, there seems little doubt that a physiological weekly cycle really exists. This was, indeed, very clearly indicated many years ago by the observations of Edward Smith, who showed that there are weekly rhythms in pulse, respiration, temperature, carbonic-acid evolution, urea, and body-weight, Sunday being the great day of repair and increase of weight.[1]

In an appendix to this volume I am able to present the results of another long series of observations of nocturnal ecbolic manifestations carried out by Mr. Perry-Coste, who has elaborately calculated the results, and has convinced himself that on the basis of a strictly lunar month, thus abolishing the disturbing influence of the weekly rhythm, which in his case also appears, a real menstrual rhythm may be traced.[2]

It does not appear to me, however, even yet that a final answer to the question that a menstrual sexual rhythm occurs in men can be decisively given in the affirmative. That such a cycle will be proved in many cases seems to me highly probable, but before this can be decisively affirmed it is necessary that a much larger number of persons should be induced to carry out on themselves the simple, but protracted, series of observations that are required.[3]

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[1] E. Smith. "Health and Disease," Chapter III. I may remark that, according to Kemsoes (Deutsche medicinische Wochenschrift, January 20, 1898, and British Medical Journal, January 29, 1898), school-children work best on Monday and Tuesday.

[2] See Appendix B.

[3] The observation of seminal emissions during sleep, with or without dreams, as first adopted bp Professor Nelson, seems to be the most satisfactory method of testing the existence of a menstrual rhythm, provided that there is a fairly complete degree of continence during waking life. A record of acts of masturbation, or of such acts combined with the nocturnal ecboles, might reasonably be used as a basis, but a record of normal coitus, whether in or out of marriage, would be of less value in determining a male menstrual rhythm (though possibly useful in determining an annual rhythm), because the spontaneity is here liable to be inhibited by extrinsic circumstances. It would be an advantage if such records could be kept concurrently with the records of other physiological functions of the organism, such as the pulse-frequency and the temperature. Whether the physiological month of 28 days, the lunar month of 29 days, or some other period should be used as a measure of the possible periodic vibration, every observer must decide for himself.

III.

The Annual Sexual Rhythm—In Animals—In Men—Tendency of the Sexual Impulse to become Heightened in Spring and Autumn—The Prevalence of Seasonal Erotic Festivals—The Feast of Fools—The Easter and Midsummer Bon-fires—The Seasonal Variations in Birth-rate—The Causes of those Variations—The Typical Conception-rate Curve for Europe—The Seasonal Periodicity of Seminal Emissions during Sleep—Original Observations—Spring and Autumn the Chief Periods of Involuntary Sexual Excitement—The Seasonal Periodicity of Rapes—Of Outbreaks among Prisoners—The Seasonal Curves of Insanity and Suicide—The growth of Children According to Season—The Annual Curve of Bread-consumption in Prisons—Seasonal Periodicity of Scarlet Fever—The Underlying Causes of these Seasonal Phenomena.

THAT there are annual seasonal changes in the human organism, especially connected with the sexual function, is a statement that has been made by physiologists and others from time to time, and the statement has even reached the poets, who have frequently declared that spring is the season of love.

Thus, sixty years ago, Laycock, an acute pioneer in the investigation of the working of the human organism, brought together (in a chapter on "The Periodic Movements in the Reproductive Organs of Woman," in his "Nervous Diseases of Women," 1840, pp. 61-70) much interesting evidence to show that the system undergoes changes about the vernal and autumnal equinoxes, and that these changes are largely sexual.

Edward Smith, also a notable pioneer in this field of human periodicity, and, indeed, the first to make definite observations on a number of points bearing on it, sums up, in his remarkable book, "Health and Disease as Influenced by Daily, Seasonal, and Other Cyclical Changes in the Human System" (1861), to the effect that season is a more powerful influence on the system than temperature or atmospheric pressure; "in the early and middle parts of spring every function of the body is in its highest degree of efficiency," while autumn is "essentially a period of change from the minimum toward the maximum of vital conditions."

He found that in April and May most carbonic acid is evolved, there being then a progressive diminution to September, and then a progressive increase; the respiratory rate also fell from a maximum in April to a minimum maintained at exactly the same level throughout August, September, October, and November; spring was found to be the season of maximum, autumn of minimum, muscular power; sensibility to tactile and temperature impressions was also greater in spring.

Kulischer, studying the sexual customs of various human races, concluded that in primitive times only at two special seasons—at spring and in harvest-time—did pairing take place; and that, when pairing ceased to be strictly confined to these periods, its symbolical representation was still so confined, even among the civilized nations of Europe. He further argued that the physiological impulse was only felt at these periods. (Kulischer, "Die geschlechtliche Zuchtwahl bei den Menschen in der Urzeit," *Zeitschrift für Ethnologie*, 1876, pp. 152 and 157.)

Wiltshire, who made various interesting observations regarding the physiology of menstruation, wrote: "Many years ago I concluded that every woman had a law peculiar to herself, which governed the times of her bringing forth (and conceiving); that she was more prone to bring forth at certain epochs than at others; and subsequent researches have established the accuracy of the forecast." He further stated his belief in a "primordial seasonal aptitude for procreation, the impress of which still remains, and, to some extent, governs the breeding-times of humanity." (A. Wiltshire, "Lectures on the Comparative Physiology of Menstruation," *British Medical Journal*, March, 1883, pp. 502, etc.)

Westermarck, in a chapter of his "History of Human Marriage" dealing with the question of "A Human Pairing Season in Primitive Times," brings forward evidence showing that spring, or rather early summer, is the time for increase of the sexual instinct, and argues that this is a survival of an ancient pairing season; spring, he points out, is a season of want rather than abundance for a frugivorous species, but, when men took to herbs, roots, and animal food, spring became a time of abundance, and suitable for the birth of children. He thus considers that in man, as in lower animals, the times of conception are governed by the times most suitable for birth.

Rosenstadt, as we shall see later, also believes that men to-day have inherited a physiological custom of procreating at a certain epoch, and he thus accounts for the seasonal changes in the birth-rate.

Heape, who also believes that "at one period of its existence the human species had a special breeding season," follows Wiltshire in suggesting that "there is some reason to believe that the human female is not always in a condition to breed." (W. Heape, "Menstruation and Ovulation of *Macacus Rhesus*," "Philosophical Transactions," vol. clxxxviii, 1897.)

Except, however, in one important respect, with which we shall presently have to deal, few attempts have been made to demonstrate any annual organic rhythm. The supposition of such annual cycle is usually little more than a deduction from the existence of the well-marked seasonal sexual rhythm in animals. Most of the higher animals breed only once or twice a year, and at such a period that the young are born when food is most plentiful. At other periods the female is incapable of breeding, and without sexual desires, while the male is either in the same condition or in a condition of latent sexuality. Under the influence of domestication, animals tend to lose the strict periodicity of the wild condition, and become apt for breeding at more frequent intervals. Thus among dogs in the wild state the bitch only experiences heat once a year, in the spring. Among domesticated dogs, there is not only the spring period of heat, usually about May, but also an autumn period, about six months later; but the primitive period, however, remains the most important one, and the best litters of pups are produced in the spring.[1] Many of the menstruating monkeys also, whether or not sexual desire is present throughout the year, only conceive in spring and in autumn. Almost any time of the year may be an animal's pairing season, this season being apparently in part determined by the economic conditions which will prevail at birth. While it is essential that animals should be born during the season of greatest abundance, it is equally essential that pairing, which involves great expenditure of energy, should also take place at a season of maximum physical vigor.

As an example of the sexual history of an animal through the year, I may quote the following description by Dr. A. W. Johnstone of the habits of the American deer: "Our common American deer in winter-time is half-starved for lack of vegetation in the woods; the low temperature, snow, and ice make his conditions of life harder for lack of the proper amount of food, whereby he becomes an easier prey to carnivorous animals. He has difficulty even in preserving life. In spring he sheds his winter coat and is provided with a suit of lighter hair, and while this is going on the male grows antlers for defence. The female

[1] Dalziel, "The Collie."

about this time is far along in pregnancy, and when the antlers are fully grown she drops the fawn. When the fawns are dropped vegetation is plentiful and lactation sets in. During this time the male is kept fully employed in getting food and guarding his more or less helpless family. As the season advances the vegetation increases and the fawn begins to eat grass. When the summer heat commences the little streams begin to dry up, and the animal once more has difficulty in supporting life because of the enervating heat, the effect of drought on the vegetation, and the distance which has to be traveled to get water; therefore fully ten months in each year the deer has all he can do to live without extra exertion incident to rutting. Soon after the autumn rains commence vegetation becomes more luxurious, the antlers of the male and new suits of hair for both are fully grown, heat of the summer is gone, food and drink are plentiful everywhere, the fawns are weaned, and both sexes are in the very finest condition. Then and then only in the whole year comes the rut, which to them, as to most other animals, means an unwonted amount of physical exercise besides the every-day runs for life from their natural enemies, and an unusual amount of energy is used up. If a doe dislikes the attention of a special buck, miles of racing result. If jealous males meet, furious battles take place. The strain on both sexes could not possibly be endured at any other season of the year. With approach of cold weather climatic deprivations and winter dangers commence and rut closes. In all wild animals rut occurs only when the climatic and other conditions favor the highest physical development. This law holds good in all wild birds, for it is then only that they can stand the strain incident to love-making. The common American crow is a very good study. In the winter he travels around the rice-fields of the South, leading a tramp's existence in a country foreign to him, and to which he goes only to escape the rigors of the northern climate. For several weeks in the spring he goes about the fields gathering up the worms and grubs. After his long flight from the South he experiences several weeks of an almost ideal existence, his food is plentiful, he becomes strong and hearty, and then he turns to thoughts of love. In the pairing season he does more work than at any other time in the year: fantastic dances, racing and chasing after the females, and savage fights with rivals. He endures more than would be possible in his ordinary physical state. Then come the care of the young and the long flights for water and food during the drought of the summer. After the molt autumn finds him once more in flock, and with the first frosts he is off again to the South. In the wild state rut is the cap-stone of perfect physical condition." (A. W. Johnstone. "The Relation of Menstruation to the other Reproductive Functions." *American Journal of Obstetrics*, vol. xxxii, 1895.)

Wiltshire ("Lectures on the Comparative Physiology of Menstrua-

tion," *British Medical Journal*, March, 1888) and Westermarck ("History of Human Marriage," Chapter II) enumerate the pairing season of a number of different animals.

With regard to the breeding seasons of monkeys little seems to be positively known. Heape made special inquiries with reference to the two species whose sexual life he investigated. He was informed that *Semnopithecus entellus* breeds twice a year, in April and in October. He accepts Aitcheson's statement that the *Macacus rhesus* in Simla copulates in October, and adds that in the very different climate of the plains it appears to copulate in May. He concludes that the breeding season varies greatly in dependence on climate, but believes that the breeding season is always preserved, and that it affects the sexual aptitude of the male. He could not make his monkeys copulate during February and March, but is unable to say whether or not sexual intercourse is generally admitted outside the breeding season. He quotes the observation of Breschet that monkeys copulate during pregnancy.

In primitive human races we very frequently trace precisely the same influence of the seasonal impulse as may be witnessed in the higher animals, although among human races it does not always result that the children are born at the time of the greatest plenty, and on account of the development of human skill such a result is not necessary. Thus Dr. Cook found among the Esquimaux that during the long winter nights the secretions are diminished, muscular power is weak, and the passions are depressed. Soon after the sun appears a kind of rut affects the young population. They tremble with the intensity of sexual passion, and for several weeks much of the time is taken up with courtship and love. Hence, the majority of the children are born nine months later, when the four months of perpetual night are beginning. A marked seasonal periodicity of this kind is not confined to the Arctic regions. We may also find it in the tropics. In Cambodia, Mondière has found that twice a year, in April and September, men seem to experience a "veritable rut," and will sometimes even kill women who resist them.[1]

These two periods, spring and autumn—the season for greeting the appearance of life and the season for reveling in its final

[1] Mondière, art. "Cambodgiens," "Dictionnaire des Sciences Anthropologiques."

fruition—seem to be everywhere throughout the world the most usual seasons for erotic festivals. In classical Greece and Rome, in India, among the Indians of North and South America, spring is the most usual season, while in Africa the yam harvest of autumn is the season chiefly selected. There are, of course, numerous exceptions to this rule, and it is common to find both seasons observed. Taking, indeed, a broad view of festivals throughout the world, we may say that there are four seasons when they are held: the winter solstice, when the days begin to lengthen and primitive man rejoices in the lengthening and seeks to assist it:[1] the vernal equinox, the period of germination and the return of life; the summer solstice, when the sun reaches its height; and autumn, the period of fruition, of thankfulness, and of repose. But it is rarely that we find a people seriously celebrating more than two of these festival seasons.

In Australia, according to Müller, as quoted by Ploss and Bartels, marriage and conception take place during the warm season, when there is greatest abundance of food, and, to some extent, is even confined to that period. Oldfield and others state that the Australian erotic festivals take place only in spring. Among some tribes, Müller adds, such as the Watschandis, conception is inagurated by a festival called *kaaro*, which takes place in the warm season at the first new moon after the yams are ripe. The leading feature of this festival is a moonlight dance, representing the sexual act symbolically. With their spears, regarded as the symbols of the male organ, the men attack bushes, which represent the female organs. They thus work themselves up to

[1] This primitive aspect of the festival is well shown by the human sacrifices which the ancient Mexicans offered at this time, in order to enable the sun to recuperate his strength. The custom survives in a symbolical form among the Mokis, who observe the festivals of the winter solstice and the vernal equinox. ("Aspects of Sun-worship among the Moki Indians," Nature, July 28, 1898.) The Walpi, a Tusayan people, hold a similar great sun-festival at the winter solstice, and December is with them a sacred month in which there is no work and little play. This festival, in which there is a dance dramatizing the fructification of the earth and the imparting of virility to the seeds of corn, is fully described by J. Walter Fewkes (American Anthropologist, March, 1898). That these solemn annual dances and festivals of North America frequently merge into "a lecherous *saturnalia*," when "all is joy and happiness," is stated by H. H. Bancroft ("Native Races of Pacific States," vol. i, p. 352).

a state of extreme sexual excitement. Among the Papuans of New Guinea, also, according to Miklucho-Macleay, conceptions chiefly occur at the end of harvest, and Guise describes the great annual festival of the year which takes place at the time of the yam and banana harvest, when the girls undergo a ceremony of initiation and marriages are effected.[1] In Central Africa, says Sir H. H. Johnston, in his "Central Africa," sexual orgies are seriously entered into at certain seasons of the year, but he neglects to mention what these seasons are. The people of New Britain, according to Weisser (as quoted by Ploss and Bartels), carefully guard their young girls from the young men. At certain times, however, a loud trumpet is blown in the evening, and the girls are then allowed to go away into the bush to mix freely with the young men. In ancient Peru (according to an account derived from a pastoral letter of Archbishop Villagomez, of Lima), in December, when the fruit of the *paltay* is ripe, a festival was held, preceded by a five days' fast. During the festival, which lasted six days and six nights, men and women met together in a state of complete nudity at a certain spot among the gardens, and all raced toward a certain hill. Every man who caught up with a woman in the race was bound at once to have intercourse with her.

Very instructive, from our present point of view, is the account given by Dalton, of the festivals of the various Bengal races. Thus the Hos (a Kolarian tribe), of Bengal, are a purely agricultural people, and the chief festival of the year with them is the *mágh parah*. It is held in the month of January, "when the granaries are full of grain, and the people, to use their own expression, full of deviltry." It is the festival of the harvest-home, the termination of the year's toil, and is always held at full moon. The festival is a *saturnalia*, when all rules of duty and decorum are forgotten, and the utmost liberty is allowed to women and girls, who become like bacchantes. The people believe that at this time both men and women become overcharged

[1] R. E. Guise, Journal of the Anthropological Institute, pp. 214-216, 1899.

with vitality, and that a safety-valve is absolutely necessary. The festival begins with a religious sacrifice made by the village priest or elders, and with prayers for the departed and for the vouchsafing of seasonable rain and good crops. The religious ceremonies over, the people give themselves up to feasting and to drinking the home-made beer, the preparation of which from fermented rice is one of a girl's chief accomplishments. "The Ho population," wrote Dalton, "are at other seasons quiet and reserved in manner, and in their demeanor toward women gentle and decorous; even in their flirtations they never transcend the bounds of decency. The girls, though full of spirits and somewhat saucy, have innate notions of propriety that make them modest in demeanor, though devoid of all prudery, and of the obscene abuse so frequently heard from the lips of common women in Bengal they appear to have no knowledge. They are delicately sensitive under harsh language of any kind, and never use it to others; and since their adoption of clothing they are careful to drape themselves decently, as well as gracefully: but they throw all this aside during the *mágh* feast. Their nature appears to undergo a temporary change. Sons and daughters revile their parents in gross language, and parents their children; men and women become almost like animals in the indulgence of their amorous propensities. They enact all that was ever portrayed by prurient artists in a bacchanalian festival or pandean orgy; and as the light of the sun they adore and the presence of numerous spectators seems to be no restraint on their indulgence, it cannot be expected that chastity is preserved when the shades of night fall on such a scene of licentiousness and debauchery." While, however, thus representing the festival as a mere debauch, Dalton adds that relationships formed at this time generally end in marriage. There is also a flower festival in April and May, of religious nature, but the dances at this festival are quieter in character.[1]

[1] Dalton, "Ethnology of Bengal," pp. 196 *et seq.* W. Crooke (Journal of the Anthropological Institute, p. 243, 1899) also refers to the annual harvest-tree dance and *saturnalia* and its association with the seasonal period for marriage.

In Burmah the great festival of the year is the full moon of October, following the Buddhist Lent season (which is also the wet season), during which there is no sexual intercourse. The other great festival is the New Year in March.[1]

In classical times the great festivals were held at the same time as in northern and modern Europe. The *brumalia* took place in midwinter, when the days were shortest, and the *rosalia*, according to early custom in May or June, and at a later time about Easter. After the establishment of Christianity the Church made constant efforts to suppress this latter festival, and it was referred to by an eighth century council as "a wicked and reprehensible holiday-making." These festivals appear to be intimately associated with Dionysus worship, and the flower-festivals of Dionysus were held in spring. So were the festivals of the Delian Apollo and of Artemis, both taking place during the first week in May.[2]

The mediæval Feast of Fools was to a large extent a seasonal orgy licensed by the church. A parody of the mass took place in the church. "After the mass," in the words of Dulaure, "there were new acts of extravagance and impiety. Priests mingled with the general population of both sexes, ran, danced in the church, excited one another to all the licentious actions unbridled imagination could suggest. No shame or modesty was shown. There was nothing to interfere with the stream of madness and passion." The Feast of Fools may be traced directly back through the barbatories of the lower empire to the Roman *saturnalia*, and at Sens, the ancient ecclesiastical metropolis of France, it was held at about the same time as the *saturnalia*, on the Feast of the Circumcision: *i. e.*, New Year's Day. It was not, however, always held at this time: thus, at Evreux, it took place on the 1st of May.[3]

The Easter bon-fires of northern-central Europe, the Mid-

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[1] H. Fielding, "The Soul of a People," 1898, Chapter XIII.

[2] See *e.g.*, L. Dyer, "Studies of the Gods in Greece," 1891, pp. 86-89, 375, etc.

[3] For a popular account of the Feast of Fools, see Loliée "La Fête des Fous," Revue des Revues, May 15, 1898; also J. G. Bourke, "Scatalogic Rites of all Nations," pp. 11-23.

summer (St. John's Eve) fires of southern-central Europe, still bear witness to the ancient festivals.[1] There is certainly a connection between these bon-fires and erotic festivals; it is noteworthy that they occur chiefly at the period of spring and early summer, which, on other grounds, is widely regarded as the time for the increase of the sexual instinct, while the less frequent period for the bon-fires is that of the minor sexual climax. Mannhardt was perhaps the first to show how intimately these spring and early summer festivals—held with bon-fires and dances and the music of violin—have been associated with love-making and the choice of a mate.[2] In spring, the first Monday in Lent (Quadrigesima) and Easter Eve were frequent days for such bon-fires. In the central highlands of Scotland the Beltane fires were kindled on the 1st of May. Bon-fires sometimes took place on Halloween (October 31st) and Christmas. But the great season all over Europe for these bon-fires, then often held with erotic ceremonial, is the summer solstice, the 23d of June, the eve of Midsummer, or St. John's, Day.[3]

The Bohemians and other Slavonic races formerly had meetings with sexual license. This was so up to the beginning of

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[1] J. Grimm ("Teutonic Mythology," p. 615) points out that the observance of the spring or Easter bon-fires marks off the Saxon from the Franconian peoples. The Easter bon-fires are held in Lower Saxony, Westphalia, Lower Hesse, Geldern, Holland, Friesland, Jutland, and Zealand. The Midsummer bon-fires are held on the Rhine, in Franconia, Thuringia, Swabia, Bavaria, Austria, and Silesia. Schwartz (Zeitschrift für Ethnologie, p. 151, 1896) shows that at Lauterberg, in the Harz Mountains, the line of demarkation between these two primitive districts may still be clearly traced.

[2] Wald und Feldkulte, 1875, vol. i, pp. 455 *et seq.* He also mentions that St. Valentine's Day (14th of February),—or Ember Day, or the last day of February,—when the pairing of birds was supposed to take place, was associated with love-making and the choice of a mate. In Lorraine, it may be added, on the 1st of May, the young girls chose young men as their valentines, a custom known by this name to Rabelais.

[3] Mannhardt, *ibid.*, p. 469. Also J. G. Frazer, "Golden Bough," vol. ii. Chapter IV. For further facts and references, see K. Pearson ("The Chances of Death," 1897, vol. ii. "Woman as Witch," "Kindred Group-marriage," and Appendix on "The '*Mailehn*' and '*Kiltgang*,'") who incidentally brings together some of the evidence concerning primitive sex-festivals in Europe. Also E. Hahn, "Demeter und Baubo," 1896, pp. 38-40; and for some modern survivals, see Deniker, "Races of Man," 1900, Chapter III.

the sixteenth century on the banks of rivers near Novgorod. The meetings took place, as a rule, the day before the Festival of John the Baptist, which, in pagan times, was that of a divinity known by the name of Jarilo (equivalent to Priapus). Half a century later, a new ecclesiastical code sought to abolish every vestige of the early festivals held on Christmas Day, on the Day of the Baptism of Our Lord, and on John the Baptist's Day. A general feature of all these festivals (says Kowelewsky) was the prevalence of the promiscuous intercourse of the sexes. Among the Esthonians, at the end of the last century, thousands of persons would gather around an old ruined church (in the Fellinschen) on the Eve of St. John, light a bon-fire, and throw sacrificial gifts into it. Sterile women danced naked among the ruins; much eating and drinking went on, while the young men and maidens disappeared into the woods to do what they would. Festivals of this character still take place at the end of June in some districts. Young, unmarried couples jump bare-foot over large fires, usually near rivers or ponds. Licentiousness is rare. But in many parts of Russia the peasants still attach little value to virginity, and even prefer women who have been mothers. The population of the Grisons in the sixteenth century held regular meetings not less licentious than those of the Cossacks. These were abolished by law. Kowelewsky regards all such customs as a survival of early forms of promiscuity.[1]

As regards these primitive festivals, although the evidence is scattered and sometimes obscure, certain main conclusions clearly emerge. In early Europe there were, according to Grimm, only two seasons, sometimes regarded as spring and winter, sometimes as spring and autumn, and for mythical purposes these seasons were alone available.[2] The appearance of each of these two seasons was inaugurated by festivals which were religious and often erotic in character. The Slavonic year began in March, at

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[1] M. Kowelewsky, "Marriage Among the Early Slavs," Folk-lore, December, 1890.

[2] A. Tille, however ("Yule and Christmas," 1899), while admitting that the general Aryan division of the year was dual, follows Tacitus in asserting that the Germanic division of the year (like the Egyptian) was tripartite: winter, spring, and summer.

which time there was formerly, it is believed, a great festival, not only in Slavonic, but also in Teutonic countries. In Northern Germany there were Easter bon-fires always associated with mountains or hills. The Celtic bon-fires were held at the beginning of May, while the Teutonic May-day, or *Walpurgisnacht*, is a very ancient sacred festival, associated with erotic ceremonial, and regarded by Grimm as having a common origin with the Roman *floralia* and the Greek *dionysia*. Thus, in Europe, Grimm concludes: "there are four different ways of welcoming summer. In Sweden and Gothland a battle of winter and summer, a triumphal entry of the latter. In Schonen, Denmark, Lower Saxony, and England simply May-riding, or fetching of the May-wagon. On the Rhine merely a battle of winter and summer, without immersion, without the pomp of an entry. In Franconia, Thuringia, Meissen, Silesia, and Bohemia only the carrying out of wintry death; no battle, no formal introduction of summer. Of these festivals the first and second fall in May, the third and fourth in March. In the first two, the whole population take part with unabated enthusiasm; in the last two only the lower poorer class. . . . Everything goes to prove that the approach of summer was to our forefathers a holy tide, welcomed by sacrifice, feast, and dance, and largely governing and brightening the people's life."[1] The early spring festival of March has become identified with the Christian festival of Resurrection (just as the summer solstice festival has been placed beneath the patronage of St. John the Baptist); but there has been only an amalgamation of closely-allied rites, for the Christian festival also may be traced back to a similar origin. Among the early Arabians the great *ragab* feast, identified by Ewald and Robertson Smith with the Jewish *paschal* feast, fell in the spring or early summer, when the camels and other domestic animals brought forth their young and the shepherds offered their sacrifices.[2] Babylonia, the supreme early centre of religious and cosmological culture, presents a more decisive example of the sex festival.

[1] Grimm, "Teutonic Mythology" (English translation by Stallybrass), pp. 612-630, 779, 788.

[2] Wellhausen, "Reste Arabischen Heidentums," 1897, p. 98.

The festival of Tammuz is precisely analogous to the European festival of St. John's day. Tammuz was the solar god of spring vegetation, and closely associated with Ishtar, also an agricultural deity of fertility. The Tammuz festival was, in the earliest times, held toward the summer solstice, at the time of the first wheat and barley harvest. In Babylonia, as in primitive Europe, there were only two seasons: the festival of Tammuz, coming at the end of winter and the beginning of summer, was a fast followed by a feast,—a time of mourning for winter, of rejoicing for summer. It is part of the primitive function of sacred ritual to be symbolical of natural processes, a mysterious representation of natural processes with the object of bringing them about.[1] The Tammuz festival was an appeal to the powers of Nature to exhibit their generative functions: its erotic character is indicated not only by the well-known fact that the priestesses of Ishtar (the Kadishtu, or "holy ones") were prostitutes, but by the statements in Babylonian legends concerning the state of the earth during Ishtar's winter absence, when the bull, the ass, and man ceased to reproduce. It is evident that the return of spring, coincident with the Tammuz festival, was regarded as the period for the return of the reproductive instinct even in man.[2] So that along this line also we are led back to a great procreative festival.

Thus the great spring festivals were held between March and June, frequently culminating in a great orgy on Midsummer's Eve. The next great season of festivals in Europe was in late

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[1] See, *e.g.*, the chapter on ritual in Gérard-Varet's interesting book, "L'Ignorance et l'Irreflexion," 1899, for a popular account of this and allied primitive conceptions.

[2] Jastrow, "Religion of Babylonia," especially pp. 485, 571; regarding the priestesses, Jastrow remarks: "Among many nations the mysterious aspects of woman's fertility lead to rites that by a perversion of their original import appear to be obscene. The prostitutes were priestesses attached to the Ishtar cult, and who took part in ceremonies intended to symbolize fertility." Whether there is any significance in the fact that the first two months of the Babylonian year (roughly corresponding to our March and April), when we should expect births to be at a maximum, were dedicated to Ea and Bel, who, according to varying legends, were the creators of man, and that New Year's Day was the festival of Bau, regarded as the mother of mankind, I cannot say, but the suggestion may be put forward.

autumn. The beginning of November, both in Celtic and Teutonic countries, was a period of bon-fires.[1] In Germanic countries especially there was a great festival at the time. The Germanic year began at Martinmas (November 11th), and the great festival of the year was then held. It is the oldest Germanic festival on record, and retained its importance even in the middle ages. There was feasting all night, and the cattle that were to be killed were devoted to the gods; the goose was associated with this festival.[2] These autumn festivals culminated in the great festival of the winter solstice which we have perpetuated in the celebrations of Christmas and New Year. Thus, while the two great primitive culminating festivals of spring and autumn correspond exactly (as we shall see) with the seasons of maximum fecundation, even in the Europe of to-day, the earlier spring (March) and—though less closely—autumn (November) festivals correspond with the periods of maximum spontaneous sexual disturbance, as far as I have been able to obtain precise evidence of such disturbance. That the maximum of physiological sexual excitement should tend to appear earlier than the maximum of fecundation is a result that might be expected.

The considerations so far brought forward clearly indicate that among primitive races there are frequently one or two seasons in the year—especially spring and autumn—during which sexual intercourse is chiefly or even exclusively carried on, and they further indicate that these primitive customs persist to some extent even in Europe to-day. It would still remain to determine whether any such influence still affects the whole mass of the civilized population and determines the times at which intercourse, or fecundation, most frequently takes place.

This question can be most conveniently answered by study-

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[1] Grimm, "Teutonic Mythology," p. 1465. In England the November bon-fires have become merged to the Guy Fawkes celebrations. In the East the great primitive autumn festivals seem to have fallen somewhat earlier. In Babylonia the seventh month (roughly corresponding to September) was specially sacred, though nothing is known of its festivals, and this also was the sacred festival month of the Hebrews, and originally of the Arabs.

[2] A. Tille, "Yule and Christmas," p. 21, etc.

ing the seasonal variation in the birth-rate, calculating back to the time of conception. Wargentin, in Sweden, first called attention to the periodicity of the birth-rate in 1767. The matter seems to have attracted little further attention until Quetelet, who instinctively scented unreclaimed fields of statistical investigation, showed that in Belgium and Holland there is a maximum of births in February, and, consequently, of conceptions in May, and a minimum of births about July, with consequent minimum of conceptions in October. Quetelet considered that the spring maximum of conceptions corresponded to an increase of vitality after the winter cold. He pointed out that this sexual climax was better marked in the country than in towns, and accounted for this by the consideration that in the country the winter cold is more keenly felt. Later, Wappäus investigated the matter in various parts of northern and southern Europe as well as in Chile, and found that there was a maximum of conceptions in May and June attributable to season, and in Catholic countries strengthened by customs connected with ecclesiastical seasons. This maximum was, he found, followed by a minimum in September, October, and November, due to gradually-increasing exhaustion, and the influence of epidemic diseases, as well as the strain of harvest-work. This minimum is reached in the south earlier than in the north. About November conceptions again become more frequent, and reach the second maximum at about Christmas and New Year. This second maximum is very slightly marked in southern countries, but strongly marked in northern countries (in Sweden the absolute maximum of conceptions is reached in December), and is due, in the opinion of Wappäus, solely to social causes. Villermé reached somewhat similar results. Founding his study on 17,000,000 births, he showed that in France it was in April, May, and June, or from the spring equinox to the summer solstice, and nearer to the solstice than the equinox, that the maximum of fecundations takes place; while the minimum of births is normally in July, but is retarded by a wet and cold summer in such a manner that in August there are scarcely more births than in July, and, on the other hand, a very hot summer, accelerating the minimum of births, causes it

to fall in June instead of in July.[1] He also showed that in Buenos Ayres, where the seasons are reversed, the conception-rate follows the reversed seasons, and is also raised by epochs of repose, of plentiful food, and of increased social life. Sormani studied the periodicity of conception in Italy, and found that the spring maximum in the southern provinces occurs in May, and gradually falls later as one proceeds northward, until, in the extreme north of the peninsula, it occurs in July. In southern Italy there is only one maximum and one minimum; in the north there are two. The minimum which follows the spring or summer maximum increases as we approach the south, while the minimum associated with the winter cold increases as we approach the north.[2] Beukemann, who studied the matter in various parts of Germany, found that seasonal influence was specially marked in the case of illegitimate births. The maximum of conceptions of illegitimate children takes place in the spring and summer of Europe generally. In Russia it takes place in the autumn and winter, when the harvest-working months for the population are over, and the period of rest, and also of minimum death-rate (September, October, and November), comes round. In Russia the general conception-rate has been studied by various investigators. Here the maximum number of conceptions is in winter, the minimum varying among different elements of the population. Looked at more closely, there are maxima of conceptions in Russia in January and in April. (In Russian towns, however, the maximum number of conceptions occurs in the autumn.) The special characteristics of the Russian conception-rate are held to be due to the prevalence of marriages in autumn and winter, to the severely-observed fasts of spring, and to the exhausting harvest-work of summer.

It is instructive to compare the conception-rate of Europe with that of a non-European country. Such a comparison has been made by S. A. Hill for the Northwest Provinces of India. Here the Holi and other erotic festivals take place in spring; but

[1] Villermé. "De la Distribution par mois des conceptions," Annales d'Hygiène Publique, tome v, 1831, pp. 55-155.

[2] Sormani, Giornale di Med. Milit., 1870.

spring is not the period when conceptions chiefly take place; indeed, the prevalence of erotic festivals in spring appears to Hill an argument in favor of those festivals having originated in a colder climate. The conceptions show a rise through October and November to a maximum in December and January, followed by a steady and prolonged fall to a minimum in September. This curve can be accounted for by climatic and economic conditions. September is near the end of the long and depressing hot season, when malarial influences are rapidly increasing to a maximum, the food-supply is nearly exhausted, and there is the greatest tendency to suicide. With October it forms the period of greatest mortality. December, on the other hand, is the month when food is most abundant, and it is also a very healthy month.[1]

For a summary of the chief researches into this question see Ploss and Bartels, "Das Weib," 4th edition, pp. 502-516; also Rosenstadt, "Zur Frage nach den Ursachen welche die Zahl der Conceptionen, etc.," Mittheilungen aus den embryologischen Institute Universität Wien, second series, fasc. 4, 1890. Rosenstadt concludes that man has inherited from animal ancestors a "physiological custom" which has probably been further favored by climatic and social conditions. "Primitive man," he proceeds, "had inherited from his ancestors the faculty of only reproducing himself at determined epochs. On the arrival of this period of rut fecundation took place on a large scale, this being very easy, thanks to the promiscuity in which primitive man lived. With the development of civilization men give themselves up to sexual relations all the year around, but the 'physiological custom' of procreating at a certain epoch has not completely disappeared: it remains as a survival of the animal condition, and manifests itself in the recrudescence of the number of conceptions during certain months of the year."

Some years ago Prof. J. B. Haycraft argued, on the basis of data furnished by Scotland, that the conception-rate corresponds to the temperature-curve (Haycraft, "Physiological Results of Temperature Variation," "Transactions of the Royal Society of Edinburgh," volume xxix, 1880). "Temperature," he concluded, "is the main factor regulating the variations in the number of conceptions which occur during the year. It increases their number with its elevation, and this on an average of 0.5 per cent. for an elevation of 1° F." Whether or not this theory may fit the facts as regards Scotland, it is certainly altogether untenable when we take a broader view of the phenomena.

[1] Hill, Nature, July 12, 1888.

In order to obtain a fairly typical conception-curve for Europe, and to allow the variations of local habit and customs to some extent to annihilate each other, I have summated the figures given by Mayr for about a quarter of a million births in Germany, France, and Italy,[1] obtaining a curve (Chart 2) of the conception-rate which may be said roughly to be that of Europe generally. If we begin at September as the lowest point, we find an autumn rise culminating in the lesser maximum of Christmas, followed by a minor depression in January and February. Then comes the great spring rise, culminating in May, and followed after June by a rapid descent to the minimum.

It would be of some interest to know the conception-curve for the well-to-do classes, who are largely free from the industrial and social influences which evidently, to a great extent, control the conception-rate. It seems probable that the seasonal influence would here be specially well shown. The only attempt I have made in this direction is to examine a well-filled birthday-book. The entries show a very high and equally maintained maximum of conceptions throughout April, May, and June, followed by a marked minimum during the next three months, and an autumn rise very strongly marked in November. There is no December rise. As will be seen, there is here a fairly exact resemblance to the yearly ecbolic curve of people of the same class. The inquiry needs, however, to be extended to a very much larger number of cases.

A very curious and perhaps not accidental coincidence might be briefly pointed out before we leave this part of the subject. It is found[2] by taking 3000 cases of children dying under one year that, among the general population, children born in February and September (and therefore conceived in May and December) appear to possess the greatest vitality, and those born in

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[1] G. Mayr, "Die Gesetzmässigkeit im Gesellschaftsleben," 1877, p. 240.

[2] Edward Smith ("Health and Disease"), who attributes this to the lessened vitality of offspring at that season. Beukemann also states that children born in September have most vitality.

June, and, therefore, conceived in September, the least vitality.[1] As we have seen, May and December are precisely the periods when conceptions in Europe generally are at a maximum, and September is precisely the period when they are at a minimum, so that, if this coincidence is not accidental, the strongest children are conceived when there is the strongest tendency to procreate, and the feeblest children when that tendency is feeblest. I trust that the possible relationship which I here suggest will be further investigated.

Professor Nelson, in his study of dreams and their relation to seasonal ecbolic manifestations, does not present any yearly ecbolic curve, as the two years and a half over which his observations extend scarcely supply a sufficient basis. On examining his figures, however, I find there is a certain amount of evidence of a yearly rhythm. There are spring and autumn climaxes throughout (in February and in November); there is no December rise. During one year there is a marked minimum from May to September, though it is but slightly traceable in the succeeding year. These figures are too uncertain to prove anything, but, as far as they go, they are in fair agreement with the much more extensive record which I have already made use of in discussing the question of a monthly rhythm. This record, covering nearly twelve years, shows a general tendency, when the year is divided into four periods (November-January, February-April, May-July, August-October) and the results summated, to rise steadily throughout, from the minimum in the winter period to the maximum in the autumn period. This steady upward progress is not seen in each year taken separately. In three years there is a fall in passing from the November-January to the February-April quarter (always followed by a rise in the subsequent quarter); in three cases there is a fall in passing from the second to the third quarter (again always followed by a rise in the following quarter), and in two successive years there is a fall in passing from the third to the fourth quarter. If, however,

[1] Westermarck has even suggested that the December maximum of conceptions may be due to better chance of survival for September offspring ("Human Marriage," Chapter II).

beginning at the second year, we summate the results for each year with those for all previous years, a steady rise from season to season is seen throughout. If we analyze the data according to the months of the year, still more precise and interesting results (as shown in the curve, Chart 3) are obtained; two maximum points are seen, one in spring (March), one in autumn (October, or, rather, August-October), and each of these maximum points is followed by a steep and sudden descent to the minimum points in April and in December. If we compare this result with Mr. Perry-Coste's, also extending over a long series of years, we find a marked similarity. In both alike there are spring and autumn maxima, in both the autumn maximum is the highest, and in both also there is an intervening fall. In both cases, again, the maxima are followed by steep descents, but while in both the spring maximum occurs in March, in Mr. Perry-Coste's case the second maximum, though of precisely similar shape, occurs earlier, in June-September instead of August-October. In Mr. Perry-Coste's case, also, there is an apparently abnormal tendency, only shown in the more recent years of the record, to an additional maximum in January. The records certainly show far more points of agreement than of discrepancy, and by their harmony, as well with each other as with themselves, when the years are taken separately, certainly go far to prove that there is a very marked annual rhythm in the phenomena of seminal emissions during sleep, or, as Nelson has termed it, the ecbolic curve. We see also that the great yearly organic climax of sexual effervescence corresponds with the period following harvest, which, throughout the primitive world, has been a season of sexual erethism and orgy; though those customs have died out of our waking lives, they are still imprinted on our nervous texture, and become manifest during sleep.

If we are to believe, as these records tend to show, that the nocturnal and involuntary voice of the sexual impulse speaks most loudly in autumn, we are confronted by a certain opposition between the sleeping sexual impulse and the waking sexual instinct, as witnessed by the conception-curve, and also, it may be added, by the general voice of tradition, and, indeed, of indi-

vidual feeling, which concur, on the whole, in placing the chief epoch of sexual activity in spring and early summer.[1] It is not impossible to reconcile the contradiction, assuming it to be real, but I will refrain here from suggesting the various explanations which arise. We need a broader basis of facts.

In the earliest days of Greek tradition spring and summer were noted as the time of greatest wantonness. "In the season of toilsome summer," says Hesiod ("Works and Days," xi, ll. 569-90), "then goats are fattest, wine is best, women most wanton, and men weakest." Augustin Nippo, it appears, in a singular book on love dedicated to Joan of Aragon, discussed the reasons why "women are more lustful and amorous in summer and men in winter." Paulus Ægineta said that hysteria specially abounds during spring and autumn in lascivious girls and sterile women, while more recent observers have believed that hysteria is specially difficult to treat in the autumn. Oribasius, in his "Synopsis" (lib. i, cap. 6), quotes from Rufus to the effect that sexual feeling is most strong in spring and least so in summer, and Aëtius makes the same quotation. At the beginning of the century Wichmann stated that pollutions and nymphomania are most common in spring. Laycock, who refers to some of these writers, remarks: "This also at the present day is the popular opinion, and appears to be founded on fact" ("Nervous Diseases of Women," p. 69). I find that many people confirm, from their own experience, the opinion that sexual feeling is strongest in spring and summer.

There are many facts to show that early spring, and, to a certain extent, autumn, are periods of visible excitement, mainly sexual in character. We have already seen that among the Esquimaux menstruation and sexual desire occur chiefly in spring, but cases are known of healthy women in temperate climes who only menstruate twice a year, and in such cases the menstrual epochs appear to be usually in spring and autumn. Such, at all events, was the case in a girl of 20, whose history has been recorded by Dr. Mary Wenck, of Philadelphia.[2] She menstruated first when 15 years old. Six months later the flow again appeared

[1] It is, however, noteworthy that among European women menstruation now usually makes its first appearance in autumn. Krieger found that the great majority of women investigated by him menstruated for the first time in September, October, and November.

[2] Women's Medical Journal, 1894.

for the second time, and lasted three weeks, without cessation. Since then, for five years, she menstruated during March and September only, each time for three weeks, the flow being profuse, but not exhaustingly so, without pain or systemic disturbance. Examination revealed perfectly normal uterus and ovarian organs. The girl was somewhat anæmic in appearance, but three months of constant treatment, accompanied by sitz-baths during the time of month the flow should appear, accomplished nothing except to relieve a cough and increase weight. The semi-annual flow still continues, and the girl seems to be in excellent health.

It is a remarkable fact that, as noted by Dr. Hamilton Wey at Elmira, sexual outbursts among prisoners appear to occur at about March and October. "Beginning with the middle of February," writes Dr. Wey in a private letter, "and continuing for about two months, is a season of ascending sexual wave; also the latter half of September and the month of October. We are now (March 30th) in the midst of a wave."

Sexual crimes, it is interesting to note, seem to follow the tendency of crime generally, and to show a maximum in summer rather than in spring or autumn. Rapes and offences against modesty are most numerous in May, June, and July, as Villermé, Lacassagne, and others have noted. Villermé, investigating nearly 1000 such cases occurring in France in the years 1827-29, found a gradual ascent in frequency (only slightly broken in March) to a maximum in June (oscillating between May and July when the years are taken separately), and then a gradual descent to a minimum in December. Legludic gives for the 159 cases he had investigated a table showing a small February-March maximum, and a large June-August maximum, the minimum being reached in November-January (Legludic, "Attentats aux Mœurs." 1896, p. 16). Penta gives a diagram showing the seasonal influence of sexual offences with a minor climax in May (coinciding, in accordance with his observations, with the chief climax for crime generally, as well as with the maximum of conceptions), and a more marked climax in August ("I Pervertimenti Sessuali," 1893, p. 115). Laurent ("Habitués des Prisons de Paris," Chapter I) presents Lacassagne's tables of the monthly distribution of sexual and other crimes in France during the years of 1827-70. Corre ("Crime en Pays Créole") presents charts of the seasonal distribution of crime in Guadeloupe with relation to the temperature, which clearly show that, while, in a temperature like that of France or England, crime attains its maximum in the hot season, it is not so

in a hot climate; in July, where at Guadeloupe the heat attains a well-marked maximum, crimes of all kinds fall suddenly to a very low minimum.

In his "Physical and Industrial Training of Criminals"[1] Dr. H. D. Wey gives charts of the conduct of seven prisoners during several years, as shown by the marks received. These charts show that there is a very decided tendency to good behavior during summer and winter, while in spring (February, March, and April) and in autumn (August, September, and October) there are very marked falls to bad conduct, each individual tending to adhere to a conduct-curve of his own. Dr. Wey does not himself appear to have noticed this seasonal periodicity.

Crichton-Browne remarks that children in spring-time exhibit restlessness, excitability, perversity, and indisposition to exertion that are not displayed at other times. This condition, sometimes known as "spring fever," has lately been studied in over a hundred cases, both children and adults, by Kline. The majority of these report a feeling of tiredness, languor, lassitude, sometimes restlessness, sometimes drowsiness. There is often a feeling of suffocation, and a longing for Nature and fresh air and day-dreams, while work seems distasteful and unsatisfactory. Change is felt to be necessary at all costs, and sometimes there is a desire to begin some new plan of life.[2] In both sexes there is frequently a wave of sexual emotion, a longing for love. Kline also found by examination of a very large number of cases that between the ages of four and seventeen it is in spring that running away from home most often occurs. He suggests that this whole group of phenomena may be due to the shifting of the metabolic processes from the ordinary grooves into reproductive

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[1] "Monographs of the Industrial Education Association," 1888, p. 70.

[2] It is, perhaps, worth while noting that the wisdom of the medieval church found an outlet for this "spring fever" in pilgrimages to remote shrines. As Chaucer wrote in the "Canterbury Tales":—

"Whanné that April with his showers sote
The droughts of March hath piercèd to the root,
Then longen folks to gon on pilgrimage,
And palmers for to seeken strangé strands."

channels, and seeks to bring it into connection with the migrations of animals for reproductive purposes.[1]

It has long been known that the occurrence of insanity follows an annual curve, and though our knowledge of this curve, being founded on the date of admissions to asylums, cannot be said to be quite precise, it fairly corresponds to the outbreaks of acute insanity. The curve presented in Chart 4 shows the admissions to the London County Council Lunatic Asylums during the years 1893 to 1897 inclusive; I have arranged it in two-month periods, to neutralize unimportant oscillations. In order to show that this curve is not due to local or accidental circumstances, we may turn to France and take a special and chronic form of mental disease: Garnier, in his "Folie à Paris," presents an almost exactly similar curve of the admissions of cases of general paralysis to the Infirmerie Spéciale at Paris during the years 1886-88 (Chart 5).

The general statistics of suicides in Continental Europe show a very regular and unbroken curve, attaining a maximum in June and a minimum in December, the curve rising steadily through the first six months, sinking steadily through the last six months, but always reaching a somewhat greater height in May than in July.[2] Morselli shows that in various European countries there is always a rise in spring and in autumn (October or November). The spring rise differs from those we are here chiefly concerned with, and more resembles that of criminality, in continuing on to a great summer climax, and then falling rapidly about August, instead of falling during the early summer. Morselli attributes these spring and autumn rises to the influence of the strain of the early heat and the early cold.[3] In England, also, if we take a very large number of statistics,—for instance, the figures for London during the twenty years between 1865 and 1884, as given by Ogle (in a paper read before the

[1] L. W. Kline. "The Migratory Impulse." American Journal of Psychology, vol. x, No. 1. 1898, especially pp. 21-24.

[2] This is, at all events, the case in France, Prussia, and Italy. See, for instance, Durkheim's discussion of the cosmic factors of suicide, "Le Suicide," 1897, Chapter III.

[3] Morselli, "Suicide," pp. 55-72.

Statistical Society in 1886),—we find that, although the general curve has the same maximum and minimum points, it is interrupted by a break on each side of the maximum, and these two breaks occur precisely at about March and October.[1] This is shown in the curve in Chart 6, which presents the daily average for the different months.

The growth of children follows an annual rhythm. Wahl, the director of an educational establishment for homeless girls in Denmark, who investigated this question, found that the increase of weight for all the ages investigated was constantly about 33 per cent. greater in the summer half-year than in the winter half-year. It was noteworthy that even the children who had not reached school-age, and, therefore, could not be influenced by school-life, showed a similar, though slighter, difference in the same direction. It is, however, Malling-Hansen, the director of an institution for deaf-mutes in Copenhagen, who has most thoroughly investigated this matter over a great many years. He finds that there are three periods of growth throughout the year, marked off in a fairly sharp manner, and that during each of these periods the growth in weight and height shows constant characteristics. From about the end of November up to about the end of March is a period when growth, both in height and weight, proceeds at a medium rate, reaching neither a maximum nor a minimum; increase in weight is slight, the increase in height, although trifling, preponderating. After this follows a period during which the children show a marked increase in height, while increase in weight is reduced to a minimum. The children constantly lose in weight during this period of growth in height almost as much as they gain in the preceding period. This period lasts from March and April to July and August. Then follows the third period, which continues until November and December. During this period increase in height is very slight, being at its early minimum; increase in weight, on the other hand, at the beginning of the period (in September and October), is rapid and

[1] Ogle himself was inclined to think that these breaks were accidental, being unaware of the allied phenomena with which they may be brought into line.

to the middle of December very considerable, daily increase in weight being three times as great as during the winter months. Thus it may be said that the spring sexual climax corresponds, roughly, with growth in height and arrest of growth in weight, while the autumn climax corresponds roughly with a period of growth in weight and arrest of growth in height. Malling-Hansen found that slight variations in the growth of the children were often dependent on changes in temperature, in such a way that a rise of temperature, even lasting for only a few days, caused an increase of growth, and a fall of temperature a decrease in growth. In America, also, Peckham has shown that increase of growth is chiefly from the 1st of May to the 1st of September.[1] Goepel found that increase in height takes place mostly during the first eight months of the year, reaching a maximum in August, declining during the autumn and winter, in February being *nil*, while in March there is sometimes loss in weight even in healthy children.

In the course of a study as to the consumption of bread in normal schools during each month of the year, as illustrating the relationship between intellectual work and nutrition, Binet presents a number of curves which bring out results to which he makes no allusion, as they are outside his own investigation. Almost without exception, these curves show that there is an increase in the consumption of bread in spring and in autumn, the spring rise being in February, March, and April; the autumn rise in October or November. There are, however, certain fallacies in dealing with institutions like normal schools, where the conditions are not perfectly regular throughout the year, owing to vacations, etc. It is, therefore, instructive to find that under the monotonous conditions of prison-life precisely the same spring and autumn rises are found. Binet takes the consumption of bread in the women's prison at Clermont, where some four hundred prisoners, chiefly between the ages of thirty and forty,

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[1] Ped. Sem., June, 1891, p. 298. For a very full summary and bibliography of investigations regarding growth, see F. Burk, "Growth of Children in Height and Weight." American Journal of Psychology, April, 1898.

are confined, and he presents two curves for the years 1895 and 1896. The curves for these two years show certain marked disagreements with each other, but both unite in presenting a distinct rise in April, preceded and followed by a fall, and both present a still more marked autumn rise, in one case in September and November, in the other case in October.[1]

Some years ago Sir J. Crichton-Browne stated that a manifestation of the sexual stimulus of spring is to be found in the large number of novels read during the month of March ("Address in Psychology" at the annual meeting of the British Medical Association. Leeds, 1889; *Lancet*, August 14, 1889). The statement was supported by figures furnished by lending libraries, and has since been widely copied. It would certainly be interesting if we could so simply show the connection between love and season, by proving that when the birds began to sing their notes the young person's fancy naturally turns to brood over the pictures of mating in novels. I accordingly applied to Mr. Capel Shaw, Chief Librarian of the Birmingham Free Libraries (specially referred to by Sir J. Crichton-Browne), who furnished me with the Reports for 1896 and 1897-98 (this latter report is carried on to the end of March, 1898).

The readers who use the Birmingham Free Lending Libraries are about 30,000 in number; they consist very largely of young people between the ages of 14 and 25; somewhat less than half are women. Certainly we seem to have here a good field for the determination of this question. The monthly figures for each of the ten Birmingham libraries are given separately, and it is clear at a glance that without exception the maximum number of readers of prose-fiction at all the libraries during 1897-98 is found in the month of March. (I have chiefly taken into consideration the figures for 1897-98; the figures for 1896 are somewhat abnormal and irregular, probably owing to a decrease in readers, attributed to increased activity in trade, and partly to a disturbing influence caused by the opening of a large new library in the course of the year, suddenly increasing the number of readers, and drafting off borrowers from some of the other libraries.) Not only so, but there is a second, or autumnal, climax, almost equaling the spring climax, and occurring with equal certainty, appearing during 1897-98 either in October or November, and during 1896 constantly in October. Thus the periodicity of the rate of consumption of prose-fiction corresponds with the

[1] "L'Année Psychologique," 1898.

periodicity which is found to occur in the conception-rate and in sexual ecbolic manifestations.

It is necessary, however, to examine somewhat more closely the tables presented in these reports, and to compare the rate of the consumption of novels with that of other classes of literature. In the first place, if, instead of merely considering the consumption of novels per month, we make allowance for the varying length of the months, and consider the average *daily* consumption per month, the supremacy of March at once vanishes. February is really the month during which most novels were read during the first quarter of 1898, except at two libraries, where February and March are equal. The result is similar if we ascertain the daily averages for the first quarter in 1897, while in 1896 (which, however, as I have already remarked, is a rather abnormal year) the daily average for March in many of the libraries falls below that for January as well as for February. Again, when we turn to the other classes of books, we find that this predominance which February possesses, and to some extent shares with March and January, by no means exclusively applies to novels. It is not only shared by both music and poetry,—which would fit in well with the assumption of a sexual *nisus*,—but the department of "history, biography, voyages, and travels" shares it also with considerable regularity; so also does that of "arts, sciences, and natural history," and it is quite well marked in "theology, moral philosophy, etc.," and in "juvenile literature." We even have to admit that the promptings of the sexual instinct bring an increased body of visitors to the reference library (where there are no novels), for here, also, both the spring and autumnal climaxes are quite distinct. Certainly this theory carries us a little too far.

The main factor in producing this very marked annual periodicity seems to me to be wholly unconnected with the sexual impulse. The winter half of the year (from the beginning of October to the end of March), when out-door life has lost its attractions and much time must be spent in the house, is naturally the season for reading. But during the two central months of winter, December and January, the attraction of reading meets with a powerful counter-attraction in the excitement produced by the approach of Christmas, and the increased activity of social life which accompanies and for several weeks follows Christmas. In this way the other four winter months—October and November at the autumnal end and February and March at the spring end—must inevitably present the two chief reading climaxes of the year; and so the reports of lending libraries present us with figures which show a striking, but fallacious, resemblance to the curves which are probably produced by more organic causes.

I am far from wishing to deny that the impulse which draws young men and women to imaginative literature is unconnected with

the obscure promptings of the sexual instinct. But, until the disturbing influence I have just pointed out is eliminated, I see no evidence here for any true seasonal periodicity. Possibly in prisons—the value of which as laboratories of experimental psychology we have scarcely yet begun to realize—more reliable evidence might be obtained; and those French and other prisons where novels are freely allowed to the prisoners might yield evidence as regards the consumption of fiction as instructive as that yielded at Clermont concerning the consumption of bread.

Certain diseases show a very regular annual curve. This is notably the case with scarlet fever. Caiger found that 1008 cases of scarlet fever admitted to a London fever hospital during 1890 showed a marked seasonal prevalence: there was a minor climax in May (repeated in July) and a great autumnal climax in October, falling to a minimum in December and January. This curve corresponds closely to that usually observed in London.[1] That it is not peculiar to London, or to an urban district, I find by turning at random to the County Council's record of a Cornish rural district (Truro Rural District, 1895). Although only dealing with a handful of cases, this curve shows nearly the same spring minor maximum (in April and May), and precisely the same autumnal maximum in October, as the large London curve. How closely this result resembles the sexual ecbolic curve I need not insist.

So persistent a disturbing element in spring and autumn suggests that some physiological conditions underlie it, and that there is a real metabolic disturbance at these times of the year. So few continuous observations have yet been made on the metabolic processes of the body that it is not easy to verify such a surmise with absolute precision. Edward Smith's investigations, so far as they go, support it, and Perry-Coste's long-continued observations of pulse-frequency seem to show with fair regularity a maximum in early spring and another maximum in late autumn. I may also note that Haig, who has devoted many years of observations to the phenomena of uric-acid excretion, finds that uric acid tends to be highest in the spring months

[1] Lancet, June 6, 1891. Edward Smith had pointed out many years earlier that scarlet fever is most fatal in periods of increasing vitality.

(March, April, May) and lowest at the first onset of cold in October.[1]

Thus, while the sexual climaxes of spring and autumn are rooted in animal procreative cycles which in man have found expression in primitive festivals,—these, again, perhaps, strengthening and developing the sexual rhythm,—they yet have a wider significance. They constitute one among many manifestations of spring and autumn physiological disturbance corresponding with fair precision to the vernal and autumnal equinoxes. They resemble those periods of atmospheric tension, of storm and wind, which accompany the spring and autumn phases in the earth's rhythm, and they may fairly be regarded as ultimately a physiological reaction to those cosmic influences.

[1] Haig, "Uric Acid," 4th edition, 1897, p. 27.

AUTO-EROTISM: A STUDY OF THE SPONTANEOUS MANIFESTATIONS OF THE SEXUAL IMPULSE.

I.

Definition of Auto-erotism—Masturbation only Covers a Small Portion of the Auto-erotic Field—The Importance of this Study, especially To-day—Auto-erotic Phenomena in Animals—Among Savage and Barbaric Races—The Japanese *rin-no-tama* and other Special Instruments for Obtaining Auto-erotic Gratification—Abuse of the Ordinary Implements and Objects of Daily Life—The Frequency of Hair-pin in the Bladder—The Influence of Horse-exercise and Railway-traveling—The Sewing-machine and the Bicycle—Spontaneous Passive Sexual Excitement—*Delectatio Morosa*—Day-dreaming—*Pollutio*—Sexual Excitement during Sleep—Differences in the Erotic Dreams of Men and Women—The Auto-erotic Phenomena of Sleep in the Hysterical—Their Frequently Painful Character.

By "auto-erotism" I mean the phenomena of spontaneous sexual emotion generated in the absence of an external stimulus proceeding, directly or indirectly, from another person. In a wide sense, which cannot be wholly ignored here, auto-erotism may be said to include those transformations of repressed sexual activity which are a factor of some morbid conditions as well as of the normal manifestation of art and poetry, and, indeed, more or less color the whole of life.

Such a definition excludes the normal sexual excitement aroused by the presence of a beloved person of the opposite sex; it also excludes the perverted sexuality associated with an attraction to a person of the same sex: it further excludes the manifold forms of erotic fetichism, in which the normal focus of sexual attraction is displaced, and voluptuous emotions are only aroused by some object—hair, shoes, garments, etc.—which, to the ordinary lover, are of subordinate—though still, indeed, considerable—importance. The auto-erotic field remains extensive;

it ranges from occasional voluptuous day-dreams, in which the subject is entirely passive, to the perpetual unashamed efforts at sexual self-manipulation witnessed among the insane. It also includes, though chiefly as curiosities, those cases in which individuals fall in love with themselves. Among auto-erotic phenomena, or on the border-land, we must further include those religious sexual manifestations for an ideal object, of which we may find evidence in the lives of saints and ecstatics.[1] The typical form of auto-erotism is the occurrence of the sexual orgasm during sleep.

I do not know that any apology is needful for the invention of the term "auto-erotism."[2] There is no existing word in current use to indicate the whole range of phenomena I am here concerned with. We are familiar with "masturbation," but that, strictly speaking, only covers a special and arbitrary subdivision of the field, although, it is true, the subdivision with which physicians and alienists have chiefly occupied themselves. "Self-abuse" is somewhat wider, but by no means covers the whole ground, while for various reasons it is an unsatisfactory term. "Onanism" is largely used, especially in France, and some writers even include all forms of homosexual connection under this name; it may be convenient to do so from a physiological point of view, but it is a confusing and antiquated mode of procedure, and from the psychological stand-point altogether illegitimate; "onanism" ought never to be used in this connection, if only on the ground that Onan's device was not auto-erotic, but was an early example of withdrawal before emission, or *coitus interruptus*.

While the name that I have chosen may possibly not be the

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[1] See Appendix C.

[2] Letamendi, of Madrid, has suggested "*auto-erastia*" to cover what is probably much the same field. In the beginning of the century Hufeland, in his "Makrobiotic," invented the term "*geistige Onanie*" to express the filling and heating of the imagination with voluptuous images, without unchastity of body; and in 1844 Kaan, in his "Psychopathia Sexualis" used, but did not invent, the term "*onania psychica*." Gustav Jaeger, in his "Entdeckung der Seele," proposed "monosexual idiosyncrasy" to indicate the most animal forms of masturbation taking place without any correlative imaginative element, a condition illustrated by cases given in Moll's "Untersuchungen über die Libido Sexualis," B. 1, pp. 13 *et seq.* But all these terms only cover a portion of the field.

best, there should be no question as to the importance of grouping all these phenomena together. It seems to me that this field has rarely been viewed in a scientifically sound and morally sane light, simply because it has not been viewed as a whole. We have made it difficult so to view it by directing our attention on the special group of auto-erotic facts—that group included under masturbation—which was most easy to observe and which in an extreme form came plainly under medical observation in insanity and allied conditions, and we have wilfully torn this group of facts away from the larger group to which it naturally belongs. The questions which have been so widely, so diversely, and—it must unfortunately be added—often so mischievously discussed, concerning the nature and evils of masturbation are not seen in their true light and proportions until we realize that masturbation is but a specialized form of a tendency which in some form or in some degree normally affects not only man, but all the higher animals. From a medical point of view it is often convenient to regard masturbation as an isolated fact; but in order to understand it we must bear in mind its relationships. In this study of auto-erotism I shall frequently have occasion to refer to the old entity of "masturbation," because it has been more carefully studied than any other part of the auto-erotic field; but I hope it will always be borne in mind that the psychological significance and even the medical diagnostic value of masturbation cannot be appreciated unless we realize that it is an artificial subdivision of a great group of natural facts.

The study of auto-erotism is far from being an unimportant or merely curious study. Yet psychologists, medical and non-medical, almost without exception, treat its manifestations—when they refer to them at all—in a dogmatic and off-hand manner which is far from scientific. It is not surprising, therefore, that the most widely divergent opinions are expressed. Nor is it surprising that ignorant and chaotic notions among the general population should lead to results that would be ludicrous if they were not pathetic. To mention one instance known to me: a married lady who is a leader in social-purity movements and an enthusiast for sexual chastity, discovered, through reading some

pamphlet against solitary vice, that she had herself been practicing masturbation for years without knowing it. The profound anguish and hopeless despair of this woman in face of what she believed to be the moral ruin of her whole life cannot well be described. It would be easy to give further examples, though scarcely a more striking one, to show the utter confusion into which we are thrown by leaving this matter in the hands of blind leaders of the blind. Moreover, the conditions of modern civilization render auto-erotism a matter of increasing social significance. As our marriage-rate declines, and as illicit sexual relationships are, in England at all events, openly discouraged, it is absolutely inevitable that auto-erotic phenomena of one kind or another, not only among women, but also among men, should increase among us, both in amount and intensity.[1] It becomes, therefore, a matter of some importance, both to the moralist and the physician, to investigate the psychological nature of these phenomena and to decide precisely what their attitude should be toward them.

I do not purpose here to enter into a thorough discussion of all the aspects of auto-erotism. That would involve a very extensive study indeed. I wish to consider briefly certain salient points concerning auto-erotic phenomena, especially their prevalence, their nature, and their moral, physical, and other effects. I base my study partly on the facts and opinions which during the last twenty years have been scattered through the periodical and other medical literature of Europe and America; and partly on the experience of individuals, especially of fairly normal individuals. I could wish information gained in the latter way more extensive, but unfortunately the number of normal persons whom one may question on such points with the certainty of receiving reliable answers is necessarily limited.

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[1] A friend living in India writes: "From certain facts which have lately come to my knowledge, I believe masturbation is not uncommon among Englishmen in India, who, unless they are married, are quite cut off from any intercourse with white women. Many of them have an intense repugnance to sexual relations with native women, and are practically forced to help themselves in some other way. In the cases I know of neither health nor mental power seems to have suffered."

Among animals in isolation, and sometimes in freedom—though this can less often be observed—it is well known that various forms of spontaneous solitary sexual excitement occur. Horses when leading a lazy life may be observed flapping the penis until some degree of emission takes place. Welsh ponies, I learn from a man who has had much experience with these animals, habitually produce erections and emissions in their stalls; they do not bring their hind quarters up during this process, and they close their eyes, which does not take place when they have congress with mares. The same informant observed that bulls and goats produce emissions by using their forelegs as a stimulus, bringing up their hind quarters, and mares rub themselves against objects. Stags in the rutting season, when they have no partners, rub themselves against trees to produce ejaculation. Sheep masturbate; as also do camels, pressing themselves down against convenient objects; and elephants compress the penis between the hind legs to obtain emissions. Blumenbach observed a bear act somewhat similarly on seeing other bears coupling. Mammary masturbation, remarks Féré, is found in certain female and even male animals, like the dog and the cat.[1] Apes are much given to masturbation, even in freedom, according to the evidence of good observers; while no female apes are celebates, many of the males are obliged to lead a life of celibacy.[2] Male monkeys use the hand in masturbation, to rub and shake the penis.[3]

In the human species these phenomena are by no means found in civilization alone. To whatever extent masturbation may have been developed by the conditions of European life, which carry to the utmost extreme the concomitant stimulation and repression of the sexual emotions, it is far from being, as Mantegazza has declared it to be, one of the moral characteristics

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[1] Féré, "Perversions sexuelles chez les animaux," Revue Philosophique, May, 1897.

[2] Tillier, "L'Instinct Sexuel," 1889, p. 270.

[3] Moll, "Libido Sexualis," B. 1, p. 76. The same author mentions (*ibid.*, p. 373) that parrots living in solitary confinement masturbate by rubbing the posterior part of the body against some object until ejaculation occurs.

of Europeans.[1] It is found among the people of nearly every race of which we have any intimate knowledge, however natural the conditions under which men and women may live.[2] Thus, among the Nama Hottentots, among the young women, at all events, Gustav Fritsch found that masturbation is so common that it is regarded as a custom of the country; no secret is made of it, and in the stories and legends of the race it is treated as one of the most ordinary facts of life. It is so also among the Basutos, and the Kaffirs are addicted to the same habit.[3] When the Spaniards first arrived at Vizaya and the Philippines, they found that masturbation was universal, and that it was customary for the women to use an artificial penis and other abnormal methods of sexual gratification. Among the Balinese, according to Jacobs (as quoted by Ploss and Bartels), masturbation is general; in the boudoir of many a Bali beauty, he adds, and certainly in every harem, may be found a wax penis to which many hours of solitude are devoted. Throughout the East, as Eram, speaking from a long medical experience, has declared, masturbation is very prevalent, especially among young girls. In India, a medical correspondent tells me, he once treated the widow of a wealthy Mohammedan, who informed him that she began masturbation at an early age, "just like all other women." The same informant tells me that on the *façade* of a large temple in Orissa are bas-reliefs, representing both men and women, alone, mas-

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[1] Dr. J. W. Howe ("Excessive Venery, Masturbation, and Continence," London and New York, 1883, p. 62) writes of masturbation: "In savage lands it is of rare occurrence. Savages live in a state of Nature. No moral obligations exist which compel them to abstain from a natural gratification of their passions. There is no social law which prevents them from following the dictates of their lower nature. Hence, they have no reason for adopting onanism as an outlet for passions. The moral trammels of civilized society and ignorance of physiological laws give origin to the vice." Every one of these six sentences is incorrect or misleading. They are worth quoting as a statement of the popular view of savage life.

[2] I cannot recall any evidence of its existence among the Australian aborigines. Thus, Dr. W. Roth ("Ethnological Studies among the North-west-Central Queensland Aborigines," p. 184), who has carefully studied the blacks of his district, remarks that he has no evidence as to the practice of either masturbation or sodomy among them.

[3] Greenlees, Journal of Mental Science, July, 1895.

turbating, and also women masturbating men. Among the Tamils of Ceylon masturbation is said to be common. In Cochin China, Lorion remarks, it is practiced by both sexes, but especially by the married women.[1] Japanese women have probably carried the mechanical arts of auto-erotism to the highest degree of perfection. They use two hollow balls about the size of a pigeon's egg (sometimes one alone is used), which, as described by Joest, Christian, and others,[2] are made of very thin leaf of brass; one is empty, the other (called the little man) contains a small heavy metal ball, or else some quicksilver, and sometimes metal tongues, which vibrate when set in movement; so that if the balls are held in the hand side by side there is a continuous movement. The empty one is first introduced into the vagina in contact with the uterus, then the other; the slightest movement of the pelvis or thighs, or even spontaneous movement of the organs, causes the metal ball (or the quicksilver) to roll, and the resulting vibration produces a prolonged voluptuous titillation, a gentle shock as from a weak electric inductive apparatus; the balls are called *rin-no-tama*, and are held in the vagina by a paper tampon. The women who use these balls delight to swing themselves in a hammock or rocking-chair, the delicate vibration of the balls slowly producing the highest degree of sexual excitement. Joest mentions that this apparatus, though well known by name to ordinary girls, is chiefly used by the more fashionable *geishas*, as well as by prostitutes. Its use has now spread to China, Annam, and India. In China, also, the artificial penis—made of rosin, supple and (like the classical instrument described by Herondas) rose-colored—is publicly sold and widely used by women.

It may be noticed that among non-European races it is among women, and especially among those who are subjected to

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[1] "La Criminalité en Cochin-Chine," 1887, p. 116; also Mondière, "Monographie de la Femme Annamite." Memoires Société d'Anthropologie, tome ii, p. 465.

[2] Christian, article on "Onanisme," Dictionnaire encyclopédique des sciences médicales; Ploss and Bartels, "Das Weib"; Moraglia, "Die Onanie beim normalen Weibe," Zeitschrift für Criminal-Anthropologie, 1897.

the excitement of a life professionally devoted to some form of pleasure, that the use of the artificial instruments of auto-erotism is chiefly practiced. The same is markedly true in Europe. The use of an artificial penis in solitary sexual gratification may be traced down from classical times.[1] The Lesbian women are said to have used such instruments made of ivory or gold, with silken stuffs and linen. Aristophanes ("Lysistrata," v. 109) speaks of the use by the Milesian women of a leather artificial penis, or *olisbos*. In the British Museum is a vase representing a *hetaira* holding such instruments, which, as found at Pompeii, may be seen in the museum at Naples. One of the best of Herondas's mimes, "The Private Conversation," presents a dialogue between two ladies concerning a certain *olisbos* (or βαυβών), which one of them vaunts as a dream of delight. Through the middle ages (when from time to time the clergy reprobated the use of such instruments) to the Elizabethan age, when Marston, in his satires, tells how Lucea prefers "a glassy instrument" to "her husband's lukewarm bed," down to the present day, somewhat similar appliances may be traced in all centres of civilization. But throughout they appear to be largely confined to the world of prostitutes and to those women who live on the fashionable or semi-artistic verge of that world. Ignorance and delicacy combine with a less versatile and perverted concentration on the sexual impulse to prevent any general recourse to such highly specialized methods of solitary gratification.

On the other hand, the use, or rather abuse, of the ordinary objects and implements of daily life in obtaining auto-erotic gratification, among the ordinary population in civilized modern lands, has reached an extraordinary degree of extent and variety which we can only feebly estimate by the occasional resulting mischances which reach the surgeon's hands, because only a cer-

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[1] The *penis succedaneus*, remarks Burton in notes to "Arabian Nights," the Latin *phallus* or *fascinum*, is in France called *godemiche*, in Italy *passatempo* and also *diletto*, whence *dildo*, by which it is most commonly known in England. For men the corresponding *cunnus succedaneus* is in England called *merkin*, which meant originally (as defined in old editions of Bailey's "Dictionary") "counterfeit hair for women's private parts."

tain proportion of such instruments are dangerous. Thus the banana seems to be widely used for masturbation by women, and appears to be marked out for the purpose by its size and shape (the mythology of Hawaii, one may note, tells of goddesses who were impregnated by bananas they had placed beneath their garments); it is, however, innocuous, and never comes under the surgeon's notice; the same may probably be said of the cucumbers and other vegetables more especially used by country and factory girls in masturbation: a lady living near Vichy told Pouillet that she had often heard (and had herself been able to verify the fact) that the young peasant women commonly used turnips, carrots, and beet-roots. In the last century Mirabeau, in his "Erotika Biblion," gave a list of the various objects used in convents (which he describes as "vast theatres" of such practices) to obtain solitary sexual excitement. In more recent years the following are a few of the objects found in the vagina or bladder whence they could only be removed by surgical interference:[1] Pencils, sticks of sealing-wax, cotton-reels, hair-pins (and in Italy very commonly the bone-pins used in the hair), bodkins, knitting-needles, crochet-needles, needle-cases, compasses, glass stoppers, candles, corks, tumblers, forks, tooth-picks, tooth-brushes, pomade-pots (in a case recorded by Schroeder with a cockchafer inside, a makeshift substitute for the Japanese *rin-no-tama*), while in one recent English case a full-sized hen's egg was removed from the vagina of a middle-aged married woman. More than nine-tenths of the foreign bodies found in the female bladder or urethra are due to masturbation. The age of the individuals in whom such objects have been found is usually from 17 to 30, but in a few cases they have been found in girls below 14, in-

[1] See, *e.g.*, Winckel, "Die Krankheiten der weiblichen Harnrohre und Blase," 1885, p. 211; and "Lehrbuch der Frauenkrankheiten," 1886, p. 210. Grünfeld (Wiener medicinischer Blatter, November 26, 1896), collected 115 cases of foreign body in the bladder—68 in men, 47 in women; but while those found in men were usually the result of a surgical accident, those found in women were mostly introduced by the patients themselves. The patient usually professes profound ignorance as to how the object came there; or she explains that she accidentally sat down upon it, or (in the case of the bladder) that she used it to produce freer urination.

frequently in women between 40 and 50; the large objects, naturally, are found chiefly in the vagina, and in married women.[1]

Hair-pins have, above all, been found in the female bladder with special frequency; this point is worth some consideration as an illustration of the enormous frequency of this form of auto-erotism. The female urethra is not usually regarded as a normal centre of sexual feeling; so that the introduction of an object into it can only occur by mistake or by perversion of sexual feeling.[2] It should be added that when once introduced the physiological mechanism of the bladder apparently causes the organ to tend to "swallow" the object. Moreover, for every case in which the hair-pin disappears and is lost in the bladder, from carelessness or the oblivion of the sexual spasm, there must be a vast number of cases in which the instrument is used without any such unfortunate result. There is thus great significance in the frequency with which cases of hair-pin in the bladder are strewn throughout the medical literature of all countries. In 1862 a German surgeon found the accident so common that he invented a special instrument for extracting hair-pins from the female bladder, as, indeed, Italian and French surgeons have also done. In France, Denucé, of Bordeaux, came to the conclusion that hair-pin in the bladder is the commonest result of masturbation as known to the surgeon. In England cases are constantly being recorded. In New York one physician met with four cases in a short experience.[3] In Switzerland Professor Reverdin had a precisely similar experience.[4]

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[1] A. Poulet, "Traité des Corps étrangers en Chirurgie," 1879. English translation, 1881, vol. ii, pp. 209-239. Rohleder ("Die Masturbation," 1899, pp. 24-31) also gives examples of strange objects found in the sexual organs.

[2] Pouillet, however, has suggested that the glands around the meatus and the erectile tissue of the urethra render this region a centre of voluptuous sensation.

[3] Dudley, American Journal of Obstetrics, July, 1889, p. 758.

[4] A. Reverdin, "Epingles à Cheveux dans la Vessie," Revue Médicale de la Suisse Romande, January 20, 1888. His cases are fully recorded and his paper is an able and interesting contribution to this by-way of sexual psychology. The first case was a school-master's wife, aged 22, who confessed in her husband's presence, without embarrassment or hesitation, that the maneuver was habitual, learned from a school-companion, and continued after marriage. The second was a single woman of 42,

There is, however, another class of material objects, widely employed for producing physical auto-erotism, which in the nature of things never reaches the surgeon. I refer to the effects that, naturally or unnaturally, may be produced by many of the implements of daily life that do not come in direct contact with the sexual organs. Children sometimes, even when scarcely more than infants, produce sexual excitement by friction against the corner of a chair or other piece of furniture, and women sometimes do the same.[1] Girls in France, I am informed, are fond of riding on the *chevaux-de-bois*, or hobby horses, because of the sexual excitement thus aroused; and that the sexual emotions play a part in the fascination exerted by this form of amusement everywhere is indicated by the ecstatic faces of its devotees. At the temples in some parts of Central India, I am told, swings are hung up in pairs, men and women swinging in these until sexually excited; during the months when the men in these districts have to be away from home the girls put up swings to console themselves for the loss of their husbands.

Several writers have pointed out that riding, especially in women, may produce sexual excitement and orgasm.[2] It is well known, also, that both in men and women the vibratory motion of a railway-train frequently produces a certain degree of sexual excitement, especially when sitting forward. Such excitement

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a *curé's* servant, who attempted to elude confession, but on leaving the doctor's house remarked to the house-maid, "Never go to bed without taking out your hair-pins; accidents happen so easily." The third was an English girl of 17, who finally acknowledged that she had lost two hair-pins in this way. The fourth was a child of 12, driven by the pain to confess that the practice had become a habit with her.

[1] "One of my patients," remarks Dr. R. T. Morris, of New York ("Transactions of the American Association of Obstetricians for 1892," Philadelphia, vol. v), "who is a devout church-member, had never allowed herself to entertain sexual thoughts referring to men, but she masturbated every morning when standing before the mirror, by rubbing against a key in the bureau-drawer. A man never excited her passions, but the sight of a key in any bureau-drawer aroused erotic desires."

[2] The fact that horse-exercises may produce pollutions was well recognized by Catholic theologians, and Sanchez states that this fact need not be made a reason for traveling on foot. Rohleder ("Die Masturbation," pp. 133-134) brings together evidence regarding the influence of horse-exercise in producing sexual excitement.

may remain latent and not become specifically sexual.[1] I am not aware that this quality of railway-traveling has ever been fostered as a sexual perversion, but the sewing-machine, especially in France, has attracted considerable attention on account of its influence in exciting auto-erotic manipulations. According to one French authority, it is a well-recognized fact that to work a sewing-machine with the body in a certain position produces sexual excitement leading to the orgasm. The occurrence of the orgasm is indicated to the observer by the machine being worked for a few seconds with uncontrollable rapidity. This sound is said to be frequently heard in large French work-rooms, and it is part of the duty of the superintendents of the rooms to make the girls sit properly.[2]

"During a visit which I once paid to a manufactory of military clothing," Pouillet writes, "I witnessed the following scene:—

"In the midst of the uniform sound produced by some thirty sewing-machines, I suddenly heard one of the machines working with much more velocity than the others. I looked at the person who was working it, a brunette of 18 or 20. While she was automatically occupied with the trousers she was making on the machine her face became animated, her mouth opened slightly, her nostrils dilated, her feet moved the pedals with constantly increasing rapidity. Soon I saw a convulsive look in her eyes, her eyelids were lowered, her face turned pale and was thrown backward; hands and legs stopped and became extended; a suffocated cry, followed by a long sigh, was lost in the noise of the work-room. The girl remained motionless a few seconds, drew out her hankerchief to wipe away the pearls of sweat from her forehead, and after casting a timid and ashamed glance at her companions resumed her work. The forewoman, who acted as my guide, having observed the direction of my gaze, took me up to the girl, who blushed, lowered her face, and murmured some incoherent words before the forewoman had opened her mouth, to advise her to sit fully on the chair, and not on its edge.

"As I was leaving I heard another machine at another part of the

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[1] A correspondent to whom the idea was presented for the first time, wrote: "Henceforward I shall know to what I must attribute the bliss—almost the beatitude—I so often have experienced after traveling for four or five hours in a train." Penta mentions the case of a young girl who first experienced sexual desire at the age of twelve after a railway journey.

[2] Pouillet, "L'onanisme chez la Femme," Paris, 1880; Fournier, "De l'onanisme," 1885; Rohleder, "Die Masturbation," p. 132.

room in accelerated movement. The forewoman smiled at me, and remarked that that was so frequent that it attracted no notice. It was specially observed, she told me, in the case of young work-girls, apprentices, and those who sat on the edge of their seats, thus much facilitating friction of the labia."

In cases where the sewing-machine does not lead to direct self-excitement, it has been held, as by Fothergill,[1] to predispose to frequency of involuntary sexual orgasm during sleep, from the irritation set up by the movement of the feet in the sitting posture during the day. The essential movement in working the sewing-machine is the flexion and extension of the ankle, but the muscles of the thighs are used to maintain the feet firmly on the treadle, the thighs are held together, and there is a considerable degree of flexion or extension of the thighs on the trunk; by a special adjustment of the body, and sometimes perhaps merely in the presence of sexual hyperesthesia, it is thus possible to act upon the sexual organs; but this is by no means a necessary result of using the sewing-machine, and inquiry of various women, with well-developed sexual feelings, who are accustomed to work the treadle, has not shown the presence of any tendency in this direction.

Sexual irritation may also be produced by the bicycle in women. Thus, Moll[2] remarks that he knows many married women, and some unmarried, who experience sexual excitement when cycling; in several cases he has ascertained that the excitement is carried as far as complete orgasm. This result cannot, however, easily happen unless the seat is too high, the peak in contact with the organs, and a rolling movement is adopted; in the absence of marked hyperesthesia these results are only effected by a bad seat or an improper attitude, the body during cycling resting under proper conditions on the buttocks, and the work being mainly done by the muscles of the thighs and legs which control the ankles, flexion of the thigh on the pelvis being very small. Most medical authorities on cycling—English, French, and American—are of opinion that when cycling leads

[1] "West-Riding Asylum Reports," 1876, vol. vi.
[2] "Das Nervöse Weib," 1898, p. 193.

to sexual excitement the fault lies more with the woman than with the machine. This conclusion does not appear to me to be absolutely correct. I find on inquiry that with the old-fashioned saddle, with an elevated peak rising toward the pubes, a certain degree of sexual excitement, not usually producing the orgasm (but, as one lady expressed it, making one feel quite ready for it) is fairly common among women. Professor Lydston finds that irritation of the genital organs may unquestionably be produced in both males and females by cycling. The aggravation of hemorrhoids sometimes produced by cycling indicates also the tendency to local congestion. With the improved flat saddles, however, constructed with more definite adjustment to the anatomical formation of the parts, this general tendency is reduced to a negligible minimum.

In a further class of cases no external object whatever is used to procure the sexual orgasm, but the more or less voluntary pressure of the thighs alone is brought to bear upon the sexual regions. It is done either when sitting or standing, the thighs being placed together and firmly crossed, and the pelvis rocked so that the sexual organs are pressed against the inner and posterior parts of the thighs.[1] This is sometimes done by men, and is fairly common among women, especially, according to Martineau,[2] among those who sit much, such as dress-makers and milliners, those who use the sewing-machine, and those who ride. Vedeler remarks that in his experience in Scandinavia thigh-friction is the commonest form of masturbation in women. It is found in female infants. Thus, Townsend records the case of an infant, 8 months old, who would cross her right thigh over the left, close her eyes and clench her fists; after a minute or two

[1] Some women are also able to produce the orgasm, when in a state of sexual excitement, by placing a cushion between the knees and pressing the thighs firmly together.

[2] "Leçons sur les Déformations Vulvaires," p. 64. Martineau was informed by a dress-maker that it is very frequent in work-rooms and can usually be done without attracting attention. An ironer informed him that while standing at her work she crossed her legs, slightly bending the trunk forward and supporting herself on the table by the hands; then a few movements of contraction of the adductor muscles of the thigh would suffice to produce the orgasm.

there would be complete relaxation, with sweating and redness of face; this would occur about once a week or oftener; the child was quite healthy, with no abnormal condition of the genital organs.[1]

Most of the foregoing examples of auto-erotism are commonly included, by no means correctly, under the heading of "masturbation." There are, however, a vast number of people, possessing strong sexual emotions and living a solitary life, who experience, sometimes by instinct and sometimes on moral grounds, a strong repugnance for these manifestations of auto-erotism. As one highly intelligent lady writes: "I have sometimes wondered whether I could produce it (complete sexual excitement) mechanically, but I have a curious unreasonable repugnance to trying the experiment. It would materialize it too much." The same repugnance may be traced in the tendency to avoid, so far as possible, the use of the hands. It is quite common to find this instinctive unreasoning repugnance among women, a healthy repugnance, not founded on any moral ground. In men the same repugnance exists, more often combined with, or replaced by, a very strong moral and esthetic objection to such practices. But the presence of such a repugnance, however invincible, is very far from carrying us outside the auto-erotic field. The production of the sexual orgasm is not necessarily dependent on any external contact or voluntary mechanical cause.

As an example, though not of specifically auto-erotic manifestations, I may mention the case of a man of 57, a somewhat eccentric preacher, etc., who writes: "My whole nature goes out so to some persons, and they thrill and stir me so that I have an emission while sitting by them with no thought of sex, only the gladness of soul found its way out thus, and a glow of health suffused the whole body. There was no spasmodic conclusion, but a pleasing gentle sensation as the few drops of semen passed." (In reality, no doubt, not semen, but prostatic fluid.) This man's condition may certainly be considered somewhat morbid; he is

[1] C. W. Townsend, "Thigh-friction in Children under one Year." Annual Meeting of the American Pediatric Society, Montreal, 1896. Five cases are recorded by this writer, all in female infants.

attracted to both men and women, and the sexual impulse seems to be irritable and weak; but a similar state of things exists so often in women, no doubt due to sexual repression, and in individuals who are in a general state of normal and good health, that in these it can scarcely be called morbid. Brooding on sexual images, which the theologians termed *delectatio morosa*, may lead to spontaneous orgasm in either sex, even in perfectly normal persons. If the orgasm occurs spontaneously, without the aid of mental impressions, or any manipulations *ad hoc*, though under such conditions it ceases to be sinful from the theological stand-point, it certainly ceases also to be normal. Sérieux records the case of a somewhat neurotic woman of 50, who had been separated from her husband for ten years, and since lived a chaste life; at this age, however, she became subject to violent crises of sexual orgasm, which would come on without any accompaniment of voluptuous thoughts. MacGillicuddy records three cases of spontaneous orgasm in women coming under his notice.[1] Such crises are frequently found in those unfortunate victims of sexual repression, both men and women, who, from moral reasons, ignorance, or on other grounds, are restrained from attaining the complete sexual orgasm, but whose sexual emotions are, literally, continually dribbling from them. Schrenck-Notzing knows a lady who is spontaneously sexually excited on hearing music or seeing pictures without anything lascivious in them; she knows nothing of sexual relationships. Another lady is sexually excited on seeing beautiful and natural scenes, like the sea; sexual ideas are mixed up in her mind with these things, and the contemplation of a specially strong and sympathetic man brings the orgasm on in about a minute. Both these ladies "masturbate" in the streets, restaurants, railways, theatres, without anyone perceiving it.[2] Evidently under these conditions there is a state of hyperesthetic weakness. Such cases are far from rare, but I do not purpose to deal with them here. They may more properly be considered when dealing with the sensory excitants of the sexual emotions.

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[1] "Functional Disorders of the Nervous System in Women," p. 114.
[2] Schrenck-Notzing, "Suggestions-therapie," p. 13.

There is, however, a closely allied and, indeed, overlapping form of auto-erotism which may be considered here: I mean that associated with revery, or day-dreaming. Although this is a very common and important form of auto-erotism, besides being in a large proportion of cases the early stage of masturbation, it appears to have attracted little attention.[1] The day-dream has, indeed, been studied in its chief form, in the "continued story," by Mabel Learoyd, of Wellesley College. The continued story is an imagined narrative, more or less peculiar to the individual, by whom it is cherished with fondness, and regarded as an especially sacred mental possession, to be shared only, if at all, with very sympathizing friends. It is much commoner among girls and young women than among boys and young men; among 352 persons of both sexes, 47 per cent. among the women and only 14 per cent. among the men, have any continued story. The starting-point is an incident from a book, or, more usually, some actual experience, which the subject develops; the subject is nearly always the hero or the heroine of the story. The growth of the story is favored by solitude, and lying in bed before going to sleep is the time specially sacred to its cultivation.[2] No distinct reference, perhaps naturally enough, is made by Miss Learoyd to the element of sexual emotion with which these stories are often strongly tinged, and which is frequently their real motive. It is not uncommon to find, though by no means easy to detect, these elaborate and more or less erotic day-dreams in young men and especially young women. Each individual has his own particular dream, which is always varying or developing, but, except in very imaginative persons, to no great extent. Such a day-dream is often founded on a basis of pleasurable personal experience, and develops on that basis. It may involve an element of perversity, even though that element finds no expression in real life. It is, of course, mainly fostered by sexual abstinence;

[1] Janet has, however, recently used day-dreaming—which he calls "*reveries subconscients*"—to explain a remarkable case of demon-possession which he investigated and cured. "Névroses et Idées fixes," vol. i. pp. 390 *et seq.*

[2] "Minor Studies from the Psychological Laboratory of Wellesley College," American Journal of Psychology, vol. vii. No. 1.

whence its frequency in young women. Most usually there is little attempt to realize it. It does not necessarily lead to masturbation, though it often causes some sexual congestion or even spontaneous sexual orgasm. The day-dream is a strictly private and intimate experience, not only from its very nature, but also because it occurs in images which the subject finds great difficulty in translating into language, even when willing to do so. In other cases it is elaborately dramatic or romantic in character, the hero or heroine passing through many experiences before attaining the erotic climax of the story. This climax tends to develop in harmony with the subject's growing knowledge or experience; at first merely a kiss, it may develop into any refinement of voluptuous gratification. The day-dream may occur either in normal or abnormal persons. Rousseau, in his "Confessions," describes such dreams, in his case combined with masochism and masturbation. A distinguished American novelist, Hamlin Garland, has admirably described in "Rose of Dutchers Coolly" the part played in the erotic day-dreams of a healthy normal girl at adolescence by a circus-rider, seen on the first visit to a circus, and becoming a majestic ideal to dominate the girl's thoughts for many years. Raffalovich[1] describes the process by which in sexual inverts the vision of a person of the same sex, perhaps seen in the streets or the theatre, is evoked in solitary reveries, producing a kind of "psychic onanism," whether or not it leads on to physical manifestations.

Although day-dreaming of this kind has at present been very little studied, since it loves solitude and secrecy, and has never been counted of sufficient interest for scientific inquisition, it is really a process of considerable importance, and occupies a large part of the auto-erotic field. It is largely cultivated by refined and imaginative young men and women who lead a chaste life and would often be repelled by masturbation. In such persons, under such circumstances, it must be considered as strictly normal, the inevitable outcome of the play of the sexual impulse. No doubt it may often become morbid, and is never a

[1] "Uranisme," p. 125.

healthy process when indulged in to excess, as it is liable to be by refined young people with artistic impulses, to whom it is in the highest degree seductive and insidious.[1] As we have seen, however, day-dreaming is far from always colored by sexual emotion; yet it is a significant indication of its really sexual origin that, as I have been informed by persons of both sexes, even in these apparently non-sexual cases it frequently ceases altogether on marriage.

Even when we have eliminated all these forms of auto-erotic activity, however refined, in which the subject takes a voluntary part, we have still left unexplored an important portion of the auto-erotic field, a portion which many people are alone inclined to consider normal: sexual orgasm during sleep. That under conditions of sexual abstinence in healthy individuals there must inevitably be some auto-erotic manifestations during waking life a careful study of the facts compels us to believe. There can be no doubt, also, that, under the same conditions, the occurrence of the complete orgasm during sleep with, in men, seminal emissions, is altogether normal. Even Zeus himself, as Pausanias has recorded, was liable to such accidents: a statement which, at all events, shows that to the Greek mind there was nothing derogatory in such an occurrence.[2] The Jews, however, regarded it as an impurity,[3] and the same idea was transmitted

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[1] The acute Anstie remarked nearly thirty years ago in his work on "Neuralgia": "It is a comparatively frequent thing to see an unsocial solitary life (leading to the habit of masturbation) joined with the bad influence of an unhealthy ambition prompting to premature and false work in literature and art." From the literary side M. Léon Bazalgette has dealt with the tendency in much modern literature to devote itself to what he calls "mental onanism," of which the probable counterpart, he seems to hint, is a physical process of auto-erotism. (Léon Bazalgette, "L'onanisme considéré comme principe createur en art," Magazine Internationale, September, 1896, and republished in the same author's book, "L'esprit Nouveau," 1898.)

[2] Pausanias, "Achaia," Chapter XVII. The ancient Babylonians believed in a certain "maid of the night" who appeared to men in sleep and roused without satisfying their passions. (Jastrow, "Religion of Babylonia," p. 262.)

[3] "If any man's seed of copulation go out from him, then he shall bathe all his flesh in water and be unclean until the even. And every garment, and every skin, whereon is the seed of copulation, shall be washed with water and be unclean until the even." Leviticus, XV, v. 16-17.

to the Christian church and embodied in the word *pollutio*, by which the phenomenon was designated in ecclesiastical phraseology. According to Billuart and other theologians, pollution in sleep is not sin, unless voluntarily caused; if, however, it begins in sleep, and is completed in the half-waking state, with a sense of pleasure, it is a venial sin. It is allowable to permit a nocturnal pollution to complete itself on awaking, if it occurs without intention; and St. Thomas even says: "*Si pollutio placeat ut naturæ exoneratio vel alleviatio, peccatum non creditur.*"

Notwithstanding the fair and logical position of the more distinguished Latin theologians, there has certainly been a widely prevalent belief in Catholic countries that pollution during sleep is a sin. In the "Parson's Tale" Chaucer makes the parson say: "Another sin appertaineth to lechery that cometh in sleeping; and the sin cometh oft to them that be maidens, and eke to them that be corrupt; and this sin men clepe pollution, that cometh in four manners"; these four manners being (1) languishing of body from rank and abundant humors, (2) infirmity, (3) surfeit of meat and drink, and (4) villainous thoughts. Four hundred years later Madame Roland, in her "Mémoires Particulières," presented a vivid picture of the anguish produced in an innocent girl's mind by the notion of the sinfulness of erotic dreams. She menstruated first at the age of 14. "Before this," she writes, "I had sometimes been awakened from the deepest sleep in a surprising manner. Imagination played no part; I exercised it on too many serious subjects, and my timorous conscience preserved it from amusement with other subjects, so that it could not represent what I would not allow it to seek to understand. But an extraordinary effervescence aroused my senses in the heat of repose, and by virtue of my excellent constitution operated by itself a purification which was as strange to me as its cause. The first feeling which resulted was, I know not why, a sort of fear. I had observed in my 'Philotée' that we are not allowed to obtain any pleasure from our bodies except in lawful marriage. What I had experienced could be called a pleasure. I was then guilty, and in a class of offences which caused the most shame and sorrow, since it was that which was most displeasing to the Spotless Lamb. There was great agitation in my poor heart, prayers, and mortifications. How could I avoid it? For, indeed, I had not foreseen it, but at the instant when I experienced it, I had not taken the trouble to prevent it. My watchfulness became extreme. I scrupulously avoided positions which I found specially exposed me to the accident. My restlessness became so great that at last I was able to awake before the catastrophe. When I was not in time to prevent it, I would jump out of bed with naked feet on

to the polished floor, and with crossed arms pray to the Saviour to preserve me from the wiles of the devil. I would then impose some penance on myself, and I have carried out to the letter what the prophet King probably only transmitted to us as a figure of Oriental speech, mixing ashes with my bread, and watering it with my tears."

To the early Protestant mind, as illustrated by Luther, there was something diseased, though not impure, in sexual excitement during sleep; thus, in his "Table Talk" Luther remarks that girls who have such dreams should be married at once, "taking the medicine which God has given." It is only of recent years that medical science has obtained currency for the belief that this auto-erotic process is entirely normal. Sir James Paget declared that he had never known celibate men who had not such emissions from once or twice a week to twice every three months, both extremes being within the limits of good health, while Sir Lauder Brunton considers once a fortnight or once a month about the usual frequency, at these periods the emissions often following two nights in succession. Quite lately there has been some tendency for medical opinion to revert to the view of Luther and to regard sexual excitement during sleep as a somewhat unhealthy phenomenon. Moll is a distinguished advocate of this view. Sexual excitement during sleep is the normal result of celibacy, but it is another thing to say that it is on that account satisfactory. We might then, Moll remarks, maintain that nocturnal incontinence of urine is satisfactory since the bladder is thus emptied. Yet we take every precaution against this by insisting that the bladder shall be emptied before going to sleep.[1] This remark is supported by the fact, to which I find that both men and women can bear witness, that sexual excitement during sleep is more fatiguing than in the waking state, though this is not an invariable rule, and it is sometimes found to be refreshing.

So far as I have been able to ascertain, there seem to be, generally speaking, certain differences in the manifestations of auto-erotism during sleep in men and women which I believe to be not without psychological significance. In men the phe-

[1] Moll, "Untersuchungen über die Libido Sexualis," B. 1, p. 552.

nomenon is fairly simple; it usually appears about puberty, continues at intervals of varying duration during sexual life provided the individual is living chastely, and is generally, though not always, accompanied by erotic dreams which lead up to the climax, its occurrence being, to some extent, influenced by a variety of circumstances: physical, mental, or emotional excitement; alcohol taken before retiring; position in bed (as lying on the back), the state of the bladder, sometimes the mere fact of being in a strange bed, and to some extent apparently by the existence of monthly and yearly rhythms. On the whole, it is a fairly definite and regular phenomenon which usually leaves little conscious trace on awaking beyond probably some sense of fatigue and occasionally a headache. In women, however, the phenomena of auto-erotism during sleep seem to be much more irregular, varied, and diffused. So far as I have been able to make inquiries, it is the exception rather than the rule for girls to experience definitely erotic dreams about the period of puberty or adolescence.[1] Auto-erotic phenomena during sleep in women who have never experienced the orgasm when awake are usually of a very vague kind; while it is the rule in a chaste youth for the orgasm thus to manifest itself, it is the exception in a chaste girl. It is not, as a rule, until the orgasm has been definitely produced in the waking state—under whatever conditions it may have been produced—that it begins to occur during sleep, and even in a strongly sexual woman living a repressed life it is often comparatively infrequent. Thus, a young medical woman who endeavors to deal strenuously with her physical sexual emotions writes: "I sleep soundly, and do not dream at all. Occasionally, but very rarely, I have had sensations which awakened me suddenly. They can scarcely be called dreams, for they are mere impulses, nothing connected or coherent, yet prompted, I know,

[1] I may here refer to the curious opinion expressed by Dr. Elizabeth Blackwell, that, while the sexual impulse in man is usually relieved by seminal emissions during sleep, in women it is relieved by the occurrence of menstruation. This latter statement is flagrantly at variance with the facts; but it may perhaps be quoted in support of the view expressed above as to the comparative rarity of sexual excitement during sleep in young girls.

by sexual feeling. This is probably an experience common to all." It is possible that to this rarity in chaste women of sexual excitement during sleep we may in part attribute the violence with which repressed sexual emotion in women often manifests itself.[1] There is thus a difference here between men and women which is of some significance when we are considering the natural satisfaction of the sexual impulse in chaste women.

One of the most interesting and important characters by which the erotic dreams of women—and, indeed, their dreams generally—differ from those of men is in the tendency to evoke a repercussion on the waking life, a tendency more rarely noted in men's erotic dreams, and then only to a minor extent. This is very common even in healthy and normal women, and is exaggerated to a high degree in neurotic subjects, by whom the dream may even be interpreted as a reality, and so declared on oath, a fact of practical importance.

Hersman—having met with a case in which a school-girl with chorea, after having dreamed of an assault, accused the principal of a school of assault, obtaining his conviction—obtained the opinions of various American alienists as to the frequency with which such dreams in unstable mental subjects lead to delusions and criminal accusations. Dercum, H. C. Wood, and Rohé had not personally met with such cases; Burr believed that there was strong evidence "that a sexual dream may be so vivid as to make the subject believe she has had sexual congress"; Kiernan knew of such cases; C. H. Hughes, in persons with every appearance of sanity, had known the erotic dreams of the night to become the erotic delusions of the day, the patient protesting violently the truth of her story; while Hersman reports the case

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[1] It may be added that in more or less neurotic women and girls erotic dreams may be very frequent and depressing. Thus, J. M. Fothergill ("West Riding Reports," vol. vi, 1876) remarks: "These dreams are much more frequent than is ordinarily thought, and are the cause of a great deal of nervous depression among women. Women of a highly-nervous diathesis suffer much more from these drains than robust women. Not only are these involuntary orgasms more frequent among such women, but they cause more disturbance of the general health in them than in other women."

of a young lady in an asylum who had nightly delusions that a medical officer visited her every night, and had to do with her, coming up the hot-air flue.[1] I am acquainted with a similar case in a clever, but highly neurotic, young woman, who writes: "For years I have been trying to stamp out my passional nature, and was beginning to succeed when a strange thing happened to me last autumn. One night, as I lay in bed, I felt an influence so powerful that a man seemed present with me. I crimsoned with shame and wonder. I remember that I lay upon my back, and marveled when the spell had passed. The influence, I was assured, came from a priest whom I believed in and admired above everyone in the world. I had never dreamed of love in connection with him, because I always thought him so far above me. The influence has been upon me ever since—sometimes by day and nearly always by night; from it I generally go into a deep sleep, which lasts until morning. I am always much refreshed when I awake. This influence has the best effect upon my life that anything has ever had as regards health and mind. It is the knowledge that I am loved *fittingly* that makes me so indifferent to my future. What worries me is that I sometimes wonder if I suffer from a nervous disorder merely." The subject thus seemed to regard these occurrences as objectively real, but was sufficiently sane to wonder whether her experiences were not due to mental disorder.[2]

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[1] C. C. Hersman, "Medico-legal Aspects of Eroto-Choreic Insanities," Alienist and Neurologist, July, 1897. I may mention that Pitres ("Leçons cliniques sur l'Hystérie," vol. ii. p. 34) records the almost identical case of an hysterical girl in one of his wards, who was at first grateful to the clinical clerk to whom her case was intrusted, but afterward changed her behavior, accused him of coming nightly through the window, lying beside her, caressing her, and then exerting violent coitus three or four times in succession until she was utterly exhausted. I may here refer to the tendency to erotic excitement in women under the influence of chloroform and nitrous oxide, a tendency rarely or never noted in men, and of the frequency with which the phenomenon is attributed by the subject to actual assault. See H. Ellis, "Man and Woman," pp. 269-274.

[2] In Australia a man was charged with rape, found guilty of "attempt," and sentenced to eighteen months' imprisonment, on the accusation of a girl of 13, who subsequently confessed that the charge was imaginary; in this case the jury found it impossible to believe that so

The tendency of the auto-erotic phenomena of sleep to be manifested with such energy as to flow over into the waking life and influence conscious emotion and action, while very well marked in normal and healthy women, is seen to an exaggerated extent in hysterical women, in whom it has, therefore, chiefly been studied. Sante de Sanctis, who has investigated the dreams of many classes of people, remarks on the frequently sexual character of the dreams of hysterical women, and the repercussion of such dreams on the waking life of the following day; he gives a typical case of hysterical erotic dreaming in an uneducated servant-girl of 23, in whom such dreams occur usually a few days before the menstrual period; her dreams, especially if erotic, make an enormous impression on her; in the morning she is bad-tempered if they were unpleasant, while she feels lascivious and gives herself up to masturbation if she has had erotic dreams of men; she then has a feeling of pleasure throughout the day, and her sexual organs are bathed with moisture.[1] Pitres and Gilles de la Tourette, two of Charcot's most distinguished pupils, in their elaborate works on hysteria both consider that dreams generally have a great influence on the waking life of the hysterical, and they deal with the special influence of erotic dreams, to which, doubtless, we must refer those conceptions of *incubi* and *succubi* which played so vast and so important a part in the demonology of the middles ages, and while not unknown in men, were most frequent in women. Such erotic dreams—as these observers, confirming the experience of old writers, have found among the hysterical to-day—are by no means always, or even usually, of a pleasurable character. "It is very rare," Pitres remarks, when insisting on the sexual character of the hallucinations of the hysterical, "for these erotic hallucinations to be accompanied by agreeable voluptuous sensations. In most cases the illusion of sexual intercourse even provokes acute pain. The

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young a girl could have been lying or hallucinated, because she narrated the details of the alleged offence with such circumstantial detail. Such cases are not uncommon, and in some measure no doubt they may be accounted for by auto-erotic nocturnal hallucinations.

[1] Sante de Sanctis, "I sogni e il sonno nell'isterismo e nella epilessia," Rome, 1896, p. 101.

witches of old times nearly all affirmed that in their relations with the devil they suffered greatly. They said that his organ was long and rough and pointed, with scales which lifted on withdrawal and tore the vagina."[1] (It seems probable, I may remark, that the witches' representations, both of the devil and of sexual intercourse, were largely influenced by familiarity with the coupling of animals). As Gilles de la Tourette is careful to warn his readers, we must not too hastily assume, from the prevalence of nocturnal auto-erotic phenomena in hysterical women, that such women are necessarily sexual and libidinous in excess; the disorder is in them psychic, he points out, and not physical, and they usually receive sexual approaches with indifference and repugnance, because their sexual centres are anesthetic or hyperesthetic. "During the period of sexual activity they seek much more the care and delicate attention of men than the genital act, which they often only tolerate. Many households, begun under the happiest auspices—the bride all the more apt to believe that she loves her betrothed in virtue of her suggestibility, easily exalted, perhaps at the expense of the senses—become hells on earth. The sexual act has for the hysterical woman more than one disillusion; she cannot understand it; it inspires her with insurmountable repugnance."[2] I refer to these hysterical phenomena because they present to us, in an extreme form, facts which are common among women whom, under the artificial conditions of civilized life, we are compelled to regard as ordinarily healthy and normal. The frequent painfulness of auto-erotic phenomena is by no means an exclusively hysterical phenomenon, although often seen in a heightened form in hysterical conditions. It is probably to some extent simply the result of a conflict in consciousness with a merely physical impulse which is strong enough to assert itself in spite of the emotional and intellectual abhorrence of the subject. It is thus but an extreme form of the disgust which all sexual physical manifestations tend to inspire in a person who is not inclined to respond to them.

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[1] Pitres, "Leçons cliniques sur l'Hystérie," vol. ii. p. 37 *et seq.*
[2] Gilles de la Tourette, *loc. cit.*, p. 518.

Somewhat similar psychic disgust and physical pain are produced in the attempt to stimulate the sexual emotions and organs when these are exhausted by exercise. In the detailed history which Moll presents, of the sexual experiences of a sister in an American nursing guild,—a most instructive history of a woman fairly normal except for the results of repressed sexual emotion, and with strong moral tendencies,—various episodes are narrated well illustrating the way in which sexual excitement becomes unpleasant or even painful when it takes place as a physical reflex which the emotions and intellect are all the time struggling against.[1] It is quite probable, however, that there is a physiological, as well as a psychic, factor in this phenomenon, and Sollier, in his recent elaborate study of the nature and genesis of hysteria, by insisting on the capital importance of the disturbance of sensibility in hysteria, and the definite character of the phenomena produced in the passage between anesthesia and normal sensation, has greatly helped to reveal the mechanism of this feature of auto-erotic excitement in the hysterical.

No doubt there has been a tendency to exaggerate the unpleasant character of the auto-erotic phenomena of hysteria. That tendency was an inevitable reaction against an earlier view, according to which hysteria was little more than an unconscious expression of the sexual emotions and as such was unscientifically dismissed without any careful investigation. I agree with Breuer and Freud that the sexual needs of the hysterical are just as individual and various as those of normal women, but that they suffer from them more, largely through a moral struggle with their own instincts, and the attempt to put them into the background of consciousness.[2] In many hysterical and psychically

[1] On one occasion, when still a girl, whenever an artist whom she admired touched her hand she felt erection and moisture of the sexual parts, but without any sensation of pleasure; a little later, when an uncle's knee casually came in contact with her thigh, ejaculation of mucus took place, though she disliked the uncle; again, when a nurse, on casually seeing a man's sexual organs, an electric shock went through her, though the sight was disgusting to her; and when she had once to assist a man to urinate, she became in the highest degree excited, though without pleasure, and lay down on a couch in the next room, while a convulsive ejaculation took place. (Moll, "Libido Sexualis," B. 1, p. 354.)

[2] Breuer and Freud, "Studien über Hysterie," 1895, p. 217.

abnormal women, auto-erotic phenomena, and sexual phenomena generally, are highly pleasurable, though such persons may be quite innocent of any knowledge of the erotic character of the experience. I have come across interesting and extreme examples of this in the published experiences of the women followers of the American religious leader, T. L. Harris, founder of the "Brotherhood of the New Life." Thus, in a pamphlet, entitled, "Internal Respiration," by Respiro, a letter is quoted from a lady physician, who writes: "One morning I awoke with a strange new feeling in the womb, which lasted for a day or two; I was so very happy, but the joy was in my womb, not in my heart." "At last," writes a lady, quoted in the same pamphlet, "I fell into a slumber, lying on my back with arms and feet folded, a position I almost always find myself in when I awake, no matter in which position I may go to sleep. Very soon I awoke from this slumber with a most delightful sensation, every fibre tingling with an exquisite glow of warmth. I was lying on my left side (something I am never able to do), and was folded in the arms of my counterpart. Unless you have seen it, I cannot give you an idea of the beauty of his flesh, and with what joy I beheld and felt it. Think of it, luminous flesh; and Oh! such tints, you never could imagine without seeing. He folded me so closely in his arms," etc. In such cases there is no conflict between the physical and the psychic, and therefore the resulting excitement is pleasurable and not painful.

The extreme form of auto-erotism is the tendency sometimes found, perhaps especially in women, though this is doubtful, for the sexual emotion to be absorbed and often entirely lost in self-admiration. This Narcissus-like tendency, of which the normal germ in women is symbolized by the mirror, is found in a minor degree in some men, and is sometimes well marked in women, but in association with an attraction for other persons, to which attraction it is, of course, normally subservient.

In the extreme form in which alone the name of Narcissus may properly be invoked, there is comparative indifference to sexual gratification or the admiration of the opposite sex. Such a condition seems to be rare, except, perhaps, in insanity. Since I called attention to this form of auto-erotism (*Alienist and Neurologist*, April, 1898) several writers have discussed the condition, especially Näcke. Among 1500 insane per-

sons Näcke has found it in four men and one woman (*Psychiatrische en Neurologische Bladen*, No. 2, 1899). Dr. C. H. Hughes writes (in a private letter) that he is acquainted with such cases in which men have been absorbed in admiration of their own manly forms and of their sexual organs, and women likewise absorbed in admiration of their own mammæ and physical proportions, especially of limbs. "The whole subject," he adds, "is a singular phase of psychology, and it is not all morbid psychology either. It is closely allied to that esthetic sense which admires the nude in art."

A typical case known to me is that of a lady of 28, brought up on a farm. She is a handsome woman, of very large and fine proportions, active and healthy and intelligent, with, however, no marked sexual attraction to the opposite sex; at the same time she is not inverted, though she would like to be a man, and has a considerable degree of contempt for women. She has an intense admiration for her own person, especially her limbs; she is never so happy as when alone and naked in her own bedroom, and, so far as possible, she cultivates nakedness. She knows by heart the various measurements of her body, is proud of the fact that they are strictly in accordance with the canons of perfection, and she laughs proudly at the thought that her thigh is larger than many a woman's waist. She is frank and assured in her manners, without sexual shyness, and, while willing to receive the attention and admiration of others, she makes no attempt to gain it, and seems never to have experienced any emotions stronger than her own pleasure in herself. I should add that I have had no opportunity of detailed examination, and cannot speak positively as to the absence of masturbation.

II.

Hysteria and the Question of its Relation to the Sexual Emotions —The Early Greek Theories of its Nature and Causation—The Gradual Rise of Modern Views—Charcot—The Revolt against Charcot's Too Absolute Conclusions—Fallacies Involved—Charcot's Attitude the Outcome of his Personal Temperament—Breuer and Freud—Summary of their investigations—Breuer and Freud's Views Supplement and Complete Charcot's—At the Same Time they Furnish a Justification for the Earlier Doctrine of Hysteria—But They Must Not be Regarded as Final —The Diffused Hysteroid Condition in Normal Persons—The Physiological Basis of Hysteria—True Pathological Hysteria is Linked on to almost Normal States, especially to Sex-hunger.

The nocturnal hallucinations of hysteria, as all careful students of this condition now seem to agree, are closely allied to the hysterical attack proper. Sollier, indeed, one of the ablest of the more recent investigators of hysteria, has argued with much force that the subjects of hysteria really live in a state of pathological sleep, of vigilambulism.[1] He regards all the various accidents of hysteria as having a common basis in disturbances of sensibility, in the widest sense of the word "sensibility,"—as the very foundation of personality. Whatever the form of hysteria, we are thus only concerned with a more or less profound state of vigilambulism: a state in which the subject seems, often even to himself, to be more or less always asleep, whether the sleep may be regarded as local or general. Sollier agrees with Féré that the disorder of sensibility may be regarded as due to an exhaustion of the sensory centres of the brain, whether as the

[1] "Genèse et Nature de l'Hystérie," 1898, and in a preliminary paper read before the International Medical Congress at Rome in 1894. Lombroso ("L'Uomo Delinquente," 1889, vol. ii, p. 329), referring to the diminished metabolism of the hysterical, had already compared them to hibernating animals.

result of constitutional cerebral weakness, of the shock of a violent emotion, or of some toxic influence on the cerebral cells.[1]

We may, therefore, fitly turn from the auto-erotic phenomena of sleep which in women generally, and especially in hysterical women, seem to possess so much importance and significance, to the question—which has been so divergently answered at different periods and by different investigators—concerning the causation of hysteria, and especially concerning its alleged connection with conscious or unconscious sexual emotion.

It was the belief of the ancient Greeks that hysteria came from the womb; hence its name. We first find that statement in Plato's "Timæus": "In men the organ of generation—becoming rebellious and masterful, like an animal disobedient to reason, and maddened with the sting of lust—seeks to gain absolute sway; and the same is the case with the so-called womb, or uterus, of women: the animal within them is desirous of procreating children, and, when remaining unfruitful long beyond its proper time, gets discontented and angry, and, wandering in every direction through the body, closes up the passages of the breath, and, by obstructing respiration,[2] drives them to extremity, causing all varieties of disease."

Plato, it is true, cannot be said to reveal anywhere a very scientific attitude toward Nature. Yet he was here probably only giving expression to the current medical doctrine of his day. We find precisely the same doctrine in Hippocrates, the greatest

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[1] Sollier regards hysteria as primarily a *physical* disorder of the cerebral centres. It is, he considers, simply the way in which the cerebral centres function when affected by a special physical modification leading to a more or less profound sleep. This he regards as fundamental, the narrowing of the field of consciousness, or the doubling of personality, being secondary. He protests against a purely psychic investigation of hysteria. No doubt Janet may have exaggerated the importance of the intellectual manifestations of hysteria which he has so elaborately studied, but it can scarcely be said the psychic side generally of hysteria, and especially the emotions, have yet been adequately investigated, and Sollier's own work is, in reality, mainly a contribution to the psychology of hysteria.

[2] The hysterical phenomenon of *globus hystericus* was long afterward attributed to obstruction of respiration by the womb.

and the most observant of Greek physicians; he defined hysteria as suffocation of the womb, though he does not always clearly distinguish hysteria from epilepsy.[1] If we turn to the best Roman physicians we find again that Aretæus, "the Esquirol of antiquity," has set forth the same view, adding to his description of the movements of the womb in hysteria: "It delights, also, in fragrant smells, and advances toward them; and it has an aversion to fetid smells, and flies from them; and, on the whole, the womb is like an animal within an animal."[2] Consequently the treatment was by applying fetid smells to the nose and rubbing fragrant ointments around the sexual parts.[3]

The Arab physicians who carried on the traditions of Greek medicine appear to have said nothing new about hysteria, and possibly had little knowledge of it. In Christian medieval Europe, also, nothing new was added to the theory of hysteria; it was, indeed, less known medically than it had ever been, and, in part it may be as a result of this ignorance, in part as a result of general wretchedness (the hysterical phenomena of witchcraft reaching their height, Michelet points out, in the fourteenth century, which was a period of special misery for the poor), it flourished more vigorously. Not alone have we the records of nervous epidemics, but illuminated manuscripts, ivories, miniatures, bas-reliefs, frescoes, and engravings furnish the most vivid iconographic evidence of the prevalence of hysteria in its most

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[1] As Gilles de la Tourette points out, it is not difficult to show that epilepsy, the *morbus sacer* of the ancients, owed much of its sacred character to this confusion with hysteria. Those priestesses who, struck by the *morbus sacer*, gave forth their oracles amid convulsions, were certainly not the victims of epilepsy, but of hysteria ("Traité de l'Hystérie," vol. i, p. 3).

[2] Aretæus, "On the Causes and Symptoms of Acute Diseases," Book ii, Chapter II.

[3] It may be noted that this treatment furnishes another instance of the continuity of therapeutic methods, through all changes of theory, from the earliest to the latest times. Drugs of unpleasant odor, like asafetida, have always been used in hysteria, and scientific medicine to-day still finds that asafetida is a powerful sedative to the uterus, controlling nervous conditions during pregnancy and arresting uterine irritation when abortion is threatened (see, *e.g.*, Warman, Der Frauenarzt. August, 1895). Again, the rubbing of fragrant ointments into the sexual regions is but a form of that massage which is one of the latest methods of treating the sexual disorders of women.

violent forms during the Middle Ages. Much of this evidence is brought to the service of science in the fascinating works of Dr. P. Richer, one of Charcot's pupils.[1]

In the seventeenth century Ambroise Paré was still talking, like Hippocrates, about "suffocation of the womb"; Forestus was still, like Aretæus, applying friction to the vulva; Fernel was still reproaching Galen, who had denied that the movements of the womb produced hysteria.

It was in the seventeenth century (1618) that a French physician, Charles Lepois (Carolus Piso), physician to Henry II, trusting, as he said, to experience and reason, overthrew at one stroke the doctrine of hysteria that had ruled almost unquestioned for two thousand years, and showed that the malady occurred at all ages and in both sexes, that its seat was not in the womb, but in the brain, and that it must be considered a nervous disease.[2] So revolutionary a doctrine could not fail to meet with violent opposition, but it was confirmed by Willis, and in 1681 we owe to the genius of Sydenham a picture of hysteria which for lucidity, precision, and comprehensiveness has only been excelled in our own times.

It was not possible any longer to maintain the womb theory of Hippocrates in its crude form, but in modified forms, and especially with the object of preserving the connection which many observers continued to find between hysteria and the sexual emotions, it still found supporters in the eighteenth and even the nineteenth centuries. James, in the middle of the eighteenth century, returned to the classical view, and in his "Dictionary of Medicine" maintained that the womb is the seat of hysteria. Louyer Villermay in 1816 asserted that the most frequent causes of hysteria are deprivation of the pleasures of love, griefs connected with this passion, and disorders of menstruation. Foville in 1833 and Landouzy in 1846 advocated somewhat similar views.

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[1] "Les Démoniaques dans l'Art," 1887. "Les Malades et les Difformes dans l'Art," 1889.

[2] Glafira Abricosoff, of Moscow, in her Paris thesis, "L'Hystérie aux xvii et xviii siècles," 1897, presents a summary of the various views held at this time; as also Gilles de la Tourette, "Traité de l'Hystérie," vol. i, Chapter I.

The acute Laycock in 1840 quoted as "almost a medical proverb" the saying, "*Salacitas major, major ad hysteriam proclivitas,*" fully indorsing it. More recently still Clouston has defined hysteria as "the loss of the inhibitory influence exercised on the reproductive and sexual instincts of women by the higher mental and moral functions" (a position evidently requiring some modification in view of the fact that hysteria is by no means confined to women), while the same authority remarks that more or less concealed sexual phenomena are the chief symptoms of "hysterical insanity."[1] Two gynecologists of high position in different parts of the world, Hegar in Germany and Balls-Headley in Australia, attribute hysteria, as well as anemia, largely to unsatisfied sexual desire, including the non-satisfaction of the "ideal feelings."[2] Lombroso and Ferrero, again, while admitting that the sexual feelings might be either heightened or depressed in hysteria, referred to the frequency of what they termed "a paradoxical sexual instinct" in the hysterical, by which, for instance, sexual frigidity is combined with intense sexual preoccupations; and they also pointed out the significant fact that the crimes of the hysterical nearly always revolve around the sexual sphere.[3] Thus, even up to the time when the conception of hysteria which absolutely ignored and excluded any sexual relationship whatever had reached its height, independent views favoring such a relationship still found expression.

Of recent years, however, such views usually aroused violent antagonism. The main current of opinion was with Briquet (1859), who, treating the matter with considerable ability and a wide induction of facts, indignantly repelled the idea that there is any connection between hysteria and the sexual facts of life, physical or psychic. As he himself admitted, Briquet was moved

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[1] Edinburgh Medical Journal, June, 1883, p. 1123, and "Mental Diseases," 1887, p. 488.

[2] Hegar, "Zusammenhang der Geschlechtskrankheiten mit nervösen Leiden," Stuttgart, 1885. (Hegar, however, went much further than this, and was largely responsible for the surgical treatment of hysteria now generally recognized as worse than futile.) Balls-Headley, "Etiology of Nervous Diseases of the Female Genital Organs," Allbutt and Playfair, "System of Gynecology," 1896, p. 141.

[3] Lombroso and Ferrero, "La Donna Delinquente," 1893, pp. 613-14.

to deny a sexual causation of hysteria by the thought that such an origin would be degrading for women (*"a quelque chose de dégradant pour les femmes"*).

It was, however, the genius of Charcot, and the influence of his able pupils, which finally secured the overthrow of the sexual theory of hysteria. Charcot emphatically anathematized the visceral origin of hysteria; he declared that it is a psychic disorder, and to leave no loop-hole of escape for those who maintained a sexual causation he asserted that there are no varieties of hysteria, that the disease is one and indivisible. Charcot recognized no primordial cause of hysteria beyond heredity, which here plays a more important part than in any other neuropathic condition. Such heredity is either direct or more occasionally by transformation, any deviation of nutrition found in the ancestors (gout, diabetes, arthritis) being a possible cause of hysteria in the descendants. "We do not know anything about the nature of hysteria," Charcot wrote in 1892; "we must make it objective in order to recognize it. The dominant idea for us in the etiology of hysteria is, in the widest sense, its hereditary predisposition. The greater number of those suffering from this affection are simply born *hystérisables*, and on them the occasional causes act directly, either through autosuggestion or by causing derangement of general nutrition, and more particularly of the nutrition of the nervous system."[1]

These views are ably and decisively stated in Gilles de la Tourette's "Traité de l'Hystérie," written under the inspiration of Charcot, which has a better claim than any other work at the present day to be considered as the standard treatise on hysteria.

While Charcot's views were thus being affirmed and generally accepted, there were at the same time workers in these fields who, though they by no means ignored this doctrine of hysteria or even rejected it, were inclined to think that it was too absolutely stated. Writing in the "Dictionary of Psychological Medicine" at the same time as Charcot, Donkin, while

[1] Charcot and Marie, article on "Hysteria," Tuke's "Dictionary of Psychological Medicine."

deprecating any exclusive emphasis on the sexual causation, pointed out the enormous part played by the emotions in the production of hysteria, and the great influence of puberty in women due to the greater extent of the sexual organs, and the consequently large area of central innervation involved, and thus rendered liable to fall into a state of unstable equilibrium. Enforced abstinence from the gratification of any of the inherent and primitive desires, he pointed out, may be an adequate exciting cause. Such a view as this indicated that to set aside the ancient doctrine of a physical sexual cause of hysteria was by no means to exclude a psychic sexual cause. Ten years earlier Axenfeld and Huchard had pointed out that the reaction against the sexual origin of hysteria was becoming excessive, and they referred to the evidence brought forward by veterinary surgeons showing that unsatisfied sexual desires in animals may produce nervous symptoms very similar to hysteria.[1] The present writer, when in 1894 briefly treating hysteria as an element in secondary sexual characterization, ventured to reflect the view, confirmed by his own observation, that there was a tendency to unduly minimize the sexual factor in hysteria, and further pointed out that the old error of a special connection between hysteria and the female sexual organs probably arose from the fact that in woman the organic sexual sphere is larger than in man.[2]

When, indeed, we analyze the foundation of the now predominant opinions of Charcot and his school regarding the sexual relationships of hysteria, it becomes clear that many fallacies and misunderstandings are involved. Briquet, Charcot's chief predecessor, acknowledged that his own view was that a sexual origin

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[1] Axenfeld and Huchard, "Traité des Nevroses," 1883, pp. 1092-94. Icard, "La Femme pendant la Période Menstruelle," pp. 120-21, has also referred to recorded cases of hysteria in animals (Coste's and Peter's cases), as has Gilles de la Tourette (*op. cit.*, vol. i, p. 123). See also, for references, Féré, "L'Instinct Sexuel," p. 59.

[2] "Man and Woman," p. 283. A distinguished gynecologist, Matthews Duncan, had remarked some years earlier (Lancet, May 18, 1889) that hysteria, though not a womb disease, "especially attaches itself to the generative system, because the genital system, more than any other, exerts emotional power over the individual, power also in morals, power in social questions."

of hysteria would be "degrading to women"; that is to say, he admitted that he was influenced by a foolish and improper prejudice, for the belief that the unconscious and involuntary morbid reaction of the nervous system to any disturbance of a great primary instinct can have *"quelque chose de dégradant"* is itself an immoral belief; such disturbance of the nervous system might or might not be caused, but in any case the alleged "degradation" could only be the fiction of a distorted imagination. Again, confusion has been caused by the ancient error of making the physical sexual organs responsible for hysteria, first the womb, more recently the ovaries; the outcome of this belief was the extirpation of the sexual organs for the cure of hysteria. Charcot condemned absolutely all such operations as unscientific and dangerous, declaring that there is no such thing as hysteria of menstrual origin.[1] More recently Angelucci and Pierracini have carried out an international inquiry into the results of the surgical treatment of hysteria, and have been led to condemn it in the most unqualified manner. They appealed to alienists, surgeons, and gynecologists throughout Europe and America, and received reports of 109 cases in which the internal organs were removed for the cure of either hysteria or insanity. Only in 17 of these cases were the results beneficial, and the authors are inclined, on the evidence before them, to discount considerably the favorable results even in these 17 cases, in 9 of which there was real disease of the organs, while many were probably not cases of true hysteria; there was, further, reason to think that suggestion played a considerable part in the favorable results, since in 6 cases of simulated operation (not, of course, included in the series) the results were favorable.[2] It is, therefore, clearly demonstrated that the physical sexual organs are not the seat of hysteria. It does not, however, follow that even physical sexual desire, when repressed, is not a cause of hysteria. The opinion that it was so formed an essential part of the early doc-

[1] Gilles de la Tourette, Archives de Tocologie et de Gynécologie, June, 1895.

[2] Revista Sperimentale di Freniatria, 1897, p. 290; summarized in the Journal of Mental Science, January, 1898.

trine of hysteria, and was embodied in the ancient maxim: "*Nubat illa et morbus effugiet.*" The womb, it seemed to the ancients, was crying out for satisfaction, and when that was received the disease vanished.[1] But when it became clear that sexual desire, though ultimately founded on the sexual apparatus, is a nervous and psychic fact, to put the sexual organs out of count was not sufficient; for the sexual emotions may exist before puberty, and persist after complete removal of the sexual organs. Thus it has been the object of many writers to repel the idea that unsatisfied sexual desire can be a cause of hysteria. Briquet pointed out that hysteria is rare among nuns and frequent among prostitutes. Krafft-Ebing believes that most hysterical women are not anxious for sexual satisfaction, and declares that "hysteria caused through the non-satisfaction of the coarse sensual sexual impulse I have never seen,"[2] while Pitres and others refer to the frequently painful nature of sexual hallucinations in the hysterical. But it soon becomes obvious that the psychic sexual sphere is not confined to the gratification of conscious physical sexual desire. It is not true that hysteria is rare among nuns, some of the most tremendous epidemics of hysteria, and the most carefully studied, having occurred in convents, while the hysterical phenomena sometimes associated with revivals are well known. The prevalence of hysteria among prostitutes is evidence in favor of, rather than against, the sexual relationships of hysteria. The frequent absence of physical sexual feeling, in the same manner, may quite reasonably be taken as evidence of a disorder of the sexual emotions, while the undoubted fact that sexual intercourse usually has little beneficial

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[1] From the earliest times it was held that menstruation favors hysteria: more recently Landouzy recorded a number of observations showing that hysterical attacks coincide with perfectly healthy menstruation; while Ball has maintained that it is only during menstruation that hysteria appears in its true color. See the opinions collected by Icard, "La Femme pendant la période Menstruelle," pp. 75-81.

[2] Krafft-Ebing, "Ueber Neurosen und Psychosen durch sexuelle Abstinenz." Jahrbücher für Psychiatrie, vol. viii, 1888. It must, however, be added that the relief of hysteria by sexual satisfaction is not rare, and that Rosenthal finds that the convulsions are thus diminished. Allgemein Wiener medizinal-Zeitung, Nos. 46 and 47, 1887.

effect on pronounced hysteria, and that sexual excitement during sleep and sexual hallucinations are often painful in the same condition, is far from showing that injury or repression of the sexual emotions had nothing to do with the production of the hysteria. It would be as reasonable to argue that the evil effect of a heavy meal on a starving man must be taken as evidence that he was not suffering from starvation. The fact, indeed, on which Gilles de la Tourette and others have remarked, that the hysterical often desire not so much sexual intercourse as simple affection, would tend to show that there is here a real analogy, and that starvation or lesion of the sexual emotions may produce, like bodily starvation, a rejection of those satisfactions which are demanded in health. Thus, even a mainly *a priori* examination of the matter may lead us to see that many arguments still brought forward in favor of Charcot's position on this point fall to the ground when we realize that the sexual emotions may constitute a highly complex sphere, often hidden from observation, sometimes not conscious at all, and liable to many lesions besides that due to the non-satisfaction of sexual desire. At the same time we are not thus enabled to overthrow any of the positive results attained by Charcot and his school.

It may, however, be pointed out that Charcot's attitude toward hysteria was the outcome of his own temperament. He was primarily a neurologist, the bent of his genius was toward the investigation of facts that could be objectively demonstrated. His first interest in hysteria, dating from as far back as 1862, was in hystero-epileptic convulsive attacks, and to the last he remained indifferent to all facts which could not be objectively demonstrated. That was the secret of the advances he was enabled to make in neurology. For purely psychological investigation he had no liking, and probably no aptitude. Anyone who was privileged to observe his methods of work at the Salpêtrière will easily recall the great master's towering figure; the disdainful expression, sometimes, even, it seemed, a little sour; the lofty bearing which enthusiastic admirers called Napoleonic. The questions addressed to the patient were cold, distant, sometimes impatient. Charcot clearly had little faith in the value of any

results so attained. One may well believe also, that a man whose superficial personality was so haughty and awe-inspiring to strangers would in any case have had the greatest difficulty in penetrating the mysteries of a psychic world so obscure and elusive as that presented by the hysterical.[1]

The way was thus opened for an investigation on the psychic side, which might throw a wholly new light on hysteria. Charcot had affirmed the power, not only of physical traumatism, but even of psychic lesions—of moral shocks—to provoke its manifestations, but his sole contribution to the psychology of this psychic malady lay in the one word "suggestibility"; the nature and mechanism of this psychic process he left wholly unexplained. This step has been taken by others, in part by Charcot's successor, Janet, who, from 1889 onward, has not only insisted that the emotions stand in the first line among the causes of hysteria, but has also pointed out some portion of the mechanism of this process; thus, he saw the significance of the fact, already recognized, that strong emotions tend to produce anesthesia and to lead to a condition of mental disaggregation, favorable to abulia, or abolition of will-power. It remained to show in detail the mechanism by which the most potent of all the emotions effects its influence, and, by doing this, the Viennese investigators, Breuer and Freud, have, I venture to say, made a really important contribution to our knowledge of hysteria.[2] They have not, it is important to remark, overturned the positive elements in their great forerunner's work. Freud, whose work is still much less

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[1] It may not be unnecessary to point out that here and throughout, in speaking of the psychic mechanism of hysteria, I do not admit that any process can be *purely* psychic. As Féré puts it in an admirable study of hysteria ("Twentieth Century Practice of Medicine," 1897, vol. x, p. 556): "In the genesis of hysterical troubles everything takes place as if the psychical and the somatic phenomena were two aspects of the same biological fact."

[2] Pierre Janet. "L'Automatisme Psychologique," 1889; "L'Etat mental des Hystériques," 1894; "Névroses et Idées fixes," 1898. Breuer und Freud, "Ueber den psychischen Mechanismus hysterischer Phänomene," Neurologische Centralblatt, Nos. 1 and 2, 1893; "Studien über Hysterie," Vienna, 1895. Freud, "Zur Aetiologie der Hysterie," Wiener klinische Rundschau, Nos. 22 to 26, 1896; "L'Heredité et l'Etiologie des Névroses," Revue Neurologique, 1896, No. 6.

widely known than that of Janet, began as a disciple of Charcot, and he himself remarks that, in his earlier investigations of hysteria, he had no thought of finding any sexual etiology for that malady; he would have regarded any such suggestion as an insult to his patient. The results reached by these workers were the outcome of long and detailed investigation. Freud has investigated eighteen cases of hysteria in minute detail, devoting to each of them over a hundred hours of work. The patients, unlike those on whom the results of the French school have been mainly founded, all belonged to the educated classes, and it was thus possible to carry out an elaborate psychic investigation which would be impossible among the uneducated. Breuer and Freud insist on the fine qualities of mind and character frequently found among the hysterical. They cannot accept suggestibility as an invariable characteristic of hysteria, only abnormal excitability; they are far from agreeing with Janet (although on main points at one with him), that psychic weakness marks hysteria; there is merely an appearance of mental weakness, they say, because the mental activity of the hysterical is split up, and only a part of it is conscious.[1] The superiority of character of the hysterical is indicated by the fact that the conflict between their ideas of right and the bent of their inclinations is often an element in the constitution of the hysterical state. Breuer and Freud are prepared to assert that the hysterical are among "the flower of humanity," and they refer to those qualities of combined imaginative genius and practical energy which characterized St. Theresa, "the patron saint of the hysterical."

To understand the position of Breuer and Freud we may start from the phenomenon of "nervous shock" produced by physical traumatism, often of a very slight character. Charcot had shown that such "nervous shock," with the chain of resulting symptoms, is nothing more or less than hysteria. Breuer and

[1] We might, perhaps, even say that in hysteria the so-called higher centres have an abnormally strong inhibitory influence over the lower centres, the hysterical explosion being the revenge of the latter. Gioffredi (Gazzetta degli Ospedali, October 1, 1895) has shown that some hysterical symptoms, such as mutism, can be cured by etherization, thus loosening the control of the higher centres.

Freud may be linked on to Charcot at this point. They may be said to have proved conclusively—what had already been more or less hesitatingly suggested by others—that the most typical hysteria is really a *psychic traumatism*; that is to say, that it starts in a lesion, or rather in repeated lesions, of the emotional organism. It is true that the school of Charcot admitted the influence of moral shock, especially of the emotion of fear, but that merely as an "*agent provocateur*." and with a curious perversity Gilles de la Tourette, certainly reflecting the attitude of Charcot, in his elaborate treatise on hysteria fails to refer to the sphere of the sexual emotions even when enumerating the "*agents provocateurs*."[1]

The influence of fear is not denied by Breuer and Freud, but they have found that careful psychic analysis frequently shows that the shock of a commonplace "fear" is really rooted in a lesion of the sexual emotions. A typical and very simple illustration is furnished in a case, recorded by Breuer, in which a young girl of seventeen had her first hysterical attack after a cat sprang on her shoulders as she was going downstairs. Careful investigation showed that this girl had been the object of somewhat ardent attentions from a young man whose advances she had resisted, although her own sexual emotions had been aroused. A few days before she had been surprised by this young man on these same dark stairs, and had forcibly escaped from his hands. Here was the real psychic traumatism, the operation of which merely became manifest in the cat. "But in how many cases," asks Breuer, "is a cat thus reckoned as a completely sufficient *causa efficiens*?"

In every case that they have investigated Breuer and Freud have found some similar secret lesion of the psychic sexual sphere. In one case a governess, whose training has been se-

[1] Charcot's school could not fail to recognize the erotic tone which often dominates hysterical hallucinations. Gilles de la Tourette seeks to minimize it by the remark that "it is more mental than real." He means to say that it is more psychic than physical. and he implies that the physical element in sex is alone "real," a strange assumption in any case, as well as destructive of Gilles de la Tourette's own fundamental assertion that hysteria is a real disease and yet purely psychic.

verely upright, is, in spite of herself and without any encouragement, led to experience for the father of the children under her care an affection which she refuses to acknowledge even to herself; in another a young woman finds herself falling in love with her brother-in-law; again, an innocent girl suddenly discovers her uncle in the act of sexual intercourse with her playmate, and a boy on his way home from school is subjected to the coarse advances of a sexual invert. In nearly every case, as Freud eventually found reason to believe, a primary lesion of the sexual emotions dates from the period of puberty, and in nearly every case the intimately private nature of the lesion causes it to be carefully hidden from everyone, and even to be unacknowledged by the subject of it. In many cases Breuer and Freud have found that a slight degree of hypnosis is necessary to bring the lesion into consciousness, and the accuracy of the revelations thus obtained has been tested by independent witness. The primary lesion may thus act as "a foreign body in consciousness." Something is introduced into psychic life which refuses to merge in the general flow of consciousness. It cannot be accepted simply as other facts of life are accepted; it cannot even be talked about, and so submitted to the slow usure by which our experiences are worn down and gradually transformed. Breuer illustrates what happens by reference to the sneezing reflex. "When an irritation to the nasal mucous membrane for some reason fails to liberate this reflex, a feeling of excitement and tension arises. This excitement, being unable to stream out along motor channels, now spreads itself over the brain, inhibiting other activities. . . . *In the highest spheres of human activity we may watch the same process.*" It is a result of this process that, as Breuer and Freud found, the mere act of confession may greatly relieve the hysterical symptoms produced by this psychic mechanism, and in some cases may wholly and permanently remove them.

It is part of the mechanism of this process, as understood by these authors, that the physical symptoms of hysteria are constituted, by a process of conversion, out of the injured emotions, which then sink into the background or altogether out of consciousness. Thus, they found the prolonged tension of nursing

a near and dear relative to be a very frequent factor in the production of hysteria. For instance, an originally rheumatic pain experienced by a daughter when nursing her father becomes the symbol in memory of her painful psychic excitement, and this perhaps for several reasons, but chiefly because *its presence in consciousness almost exactly coincided with that excitement.* In another way, again, nausea and vomiting may become a symbol through the profound sense of disgust with which some emotional shock was associated. Then the symbol begins to have a life of its own, and draws hidden strength from the emotion with which it is correlated. Breuer and Freud have found by careful investigation that the pains and physical troubles of hysteria are far from being capricious, but may be traced in a varying manner to an origin in some incident, some pain, some action, which was associated with a moment of acute psychic agony. The process of conversion was an involuntary escape from an intolerable emotion, comparable to the physical pain sometimes sought in intense mental grief, and the patient wins some relief from the tortured emotions, though at the cost of psychic abnormality, of a more or less divided state of consciousness and of physical pain, or else anesthesia. In Charcot's third stage of the hysterical convulsion, that of "*attitudes passionnelles,*" Breuer and Freud see the hallucinatory reproduction of a recollection which is full of significance for the origin of the hysterical manifestations.

The final result reached by these workers—whose detailed and skillful analysis of the most difficult problem which meets the student of morbid psychology is of fascinating interest—is stated by each writer in the clearest manner. "The main observation of our predecessors," states Breuer,[1] "still preserved in the word 'hysteria,' is nearer to the truth than the more recent view which puts sexuality almost in the last line, with the object of protecting the patient from moral reproaches. Certainly the sexual needs of the hysterical are just as individual and as various in force as those of the healthy. But they suffer from them, and in large measure, indeed, they suffer precisely through the strug-

[1] "Studien über Hysterie," p. 217.

gle with them, through the effort to thrust sexuality aside." "The weightiest fact," concludes Freud,[1] "on which we strike in a thorough pursuit of the analysis is this: From whatever side and from whatever symptoms we start, we always unfailingly reach the region of the sexual life. Here, first of all, an etiological condition of hysterical states is revealed. . . . At the bottom of every case of hysteria—and reproducible by an analytical effort after even an interval of ten years—may be found one or more facts of previous sexual experience belonging to early youth. I regard this as an important result, as the discovery of a *caput Nili* of neuropathology."

It is natural to ask how this conception affects that elaborate picture of hysteria laboriously achieved by Charcot and his school. It cannot be said that it abolishes any of the positive results reached by Charcot, but it does alter their significance and value; it presents them in a new light and changes the whole perspective. With his passion for getting at tangible definite physical facts, Charcot was on very safe ground. But he was content to neglect the psychic analysis of hysteria, while yet proclaiming that hysteria is a purely psychic disorder. He had no cause of hysteria to present save only heredity. Breuer and Freud certainly admit heredity, but, the latter points out, the part it plays has been overrated. It is too vague and general to carry us far, and when a specific and definite cause can be found the part played by heredity recedes to become merely a condition: the soil on which the "specific etiology" works. Here probably Freud's enthusiasm has carried him too far. The sexual emotion is just as wide and vague a cause as heredity. We can only admit positively that hysteria is a lesion of the psychic organism. Freud has shown that the sexual emotions are so wide-spread and profound an element of the psychic organism that a deep wound of the psychic organism, such as hysteria is, cannot fail to lacerate these emotions, and that such laceration alone suffices to furnish a key to the whole complexus of symptoms.

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[1] Wiener klinische Rundschau, 1896.

The real merit of Breuer's and Freud's investigations is that —while possibly furnishing a justification of the imperfectly-understood idea that had floated in the mind of observers ever since the name "hysteria" was first invented—they have certainly supplied a definite psychic explanation of a psychic malady. They have succeeded in presenting clearly, at the expense of much labor, insight, and sympathy,[1] a dynamic view of the psychic processes involved in the constitution of the hysterical state, and such a view seems to show that the physical symptoms laboriously brought to light by Charcot are largely but epiphenomena and by-products of an emotional process, often of tragic significance to the subject, which is taking place in the most sensitive recess of the psychic organism. That the picture of the mechanism involved, presented to us by these investigators, —convincing as in many respects it certainly is,—cannot be regarded as a final and complete account of the matter may readily be admitted. It has developed in Freud's own hands, and some of the developments will require very considerable confirmation before they can be accepted as generally true. It may also be admitted that the attitude of the investigators is somewhat of the nature of a reaction, and, like most reactions, errs by being excessive, and that, while it has, at length, been definitely shown that lesions of the sexual emotional sphere play a real and large part in hysteria, we cannot follow Freud in seeing in them always the chief factors in the causation. That at all events is my own impression. But the investigations of Breuer and Freud have at least served to open a door, which Charcot had inconsistently held closed, into the deeper mysteries of hysteria, and have shown that here, if anywhere, further research will be profitable. They have further served to show that hysteria may be definitely regarded as, in very many cases at least, a manifestation of the

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[1] Freud remarks that, while he can undertake the treatment of other nervous diseases independently of his own personal feelings toward the patient, he is unable to investigate an hysterical patient with the thoroughness necessary to obtain success unless he feels personal interest and sympathy for the patient.

sexual emotions and their lesions; in other words, a transformation of auto-erotism.

The conception of hysteria so vigorously enforced by Charcot and his school is thus now beginning to appear incomplete. But we have to recognize that that incompleteness was right and necessary. A strong reaction was needed against a wide-spread view of hysteria that was not only in large measure scientifically false, but also, on account of its falseness, unjustly degrading to the victim of hysteria. It was necessary to show clearly that hysteria is a definite disorder, even when the sexual organs and emotions are swept wholly out of consideration; and it was also necessary to show that the lying and dissimulation so widely attributed to the hysterical were merely the result of an ignorant and unscientific misinterpretation of psychic elements of the disease. This has been finally and triumphantly achieved by Charcot's school. It is henceforth unnecessary to demonstrate that hysteria is no more dishonorable than any other malady, and often indeed, occurs in persons who are above, rather than below, the average in intelligence and moral character. The way is now open for the delicate analysis of its complex psychology, in freedom from the suspicion that any genuine results can be either idle or degrading; and, if such analysis leads to the conclusion that lesion of the sexual emotions plays an important part in the symptomatology or even the etiology of hysteria, we need not now fear that we are in danger of casting contempt upon the hysterical.

It seems probable that future advances in the explanation of hysteria must lie in further psychic analysis, and at the same time in the more intimate correlation of that analysis with those physical symptoms of which Charcot has given a masterly presentment, and which, at the present day, Sollier is striving, not unsuccessfully, to reveal still further.

There is only one point in the explanation of hysteria which I will here refer to, and that because it is usually ignored, and because it has relationship to the general psychology of the sexual emotions. I refer to that physiological hysteria which is the normal counterpart of the pathological hysteria which has been

described in its physical details by Charcot, and to which alone the term should strictly be applied. Even though hysteria as a disease may be described as one and indivisible, there are yet to be found, among the ordinary and fairly healthy population, vague and diffused hysteroid symptoms which are dissipated in a healthy environment, or pass nearly unnoted, only to develop in a small proportion of cases, under the influence of a more pronounced heredity or a severe physical or psychic lesion, into that definite morbid state which is properly called hysteria.

This diffused hysteroid condition may be illustrated by the results of a psychological investigation carried on in America by Miss Gertrude Stein among the ordinary male and female students of Harvard University and Radcliffe College. The object of the investigation was to study, with the aid of a planchette, the varying liability to automatic movements among normal individuals. Nearly one hundred students were submitted to experiment. It was found that automatic responses could be obtained in two sittings from all but a small proportion of the students of both sexes, but that there were two types of individual who showed a special aptitude. One type (probably showing the embryonic form of neurasthenia) was a nervous, high-strung, imaginative type, not easily influenced from without, and not so much suggestible as autosuggestible. The other type, which is significant from our present point of view, is thus described by Miss Stein: "In general the individuals, often blonde and pale, are distinctly phlegmatic. If emotional, decidedly of the weakest, sentimental order. They may be either large, healthy, rather heavy, and lacking in vigor or they may be what we call anemic and phlegmatic. Their power of concentrated attention is very small. They describe themselves as never being held by their work; they say that their minds wander easily; that they work on after they are tired, and just keep pegging away. They are very apt to have premonitory conversations, they anticipate the words of their friends, they imagine whole conversations that afterward come true. The feeling of having been there is very common with them; that is, they feel under given circumstances that they have had that

identical experience before in all its details. They are often fatalistic in their ideas. They indulge in day-dreams. As a rule, they are highly suggestible."[1]

There we have a picture of the physical constitution and psychic temperament on which the classical symptoms of hysteria might easily be built up.[2] But these persons were ordinary students, and while a few of their characteristics are what is commonly and vaguely called "morbid," on the whole, they must be regarded as ordinarily healthy individuals. They have the congenital constitution and predisposition on which some severe psychic lesion at the "psychological moment" might develop the most definite and obstinate symptoms of hysteria, but under favorable circumstances they will be ordinary men and women, of no more than ordinary abnormality or ordinary power. They are among the many who have been called to hysteria at birth; they may never be among the few who are chosen.

We may have to recognize that on the side of the sexual emotions, as well as in general constitution, a condition may be traced among normal persons that is hysteroid in character, and serves as the healthy counterpart of a condition which in hysteria is morbid. In women such a condition has been traced (though misnamed) by Dr. A. F. A. King.[3]

Dr. King describes what he calls "sexual hysteria in women," which he considers a chief variety of hysteria. He adds, however, that it is not strictly a disease, but simply an automatic reaction of the reproductive system which tends to become abnormal under conditions of civilization, and to be perpetuated in a morbid form. In this condition he finds twelve characters: 1. Time of life, usually between puberty

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[1] Gertrude Stein, "Cultivated Motor Automatism," Psychological Review, May, 1898.

[2] Charcot's most faithful followers refuse to recognize an "hysteric temperament," and are quite right, if such a conception is used to destroy the conception of hysteria as a definite disease. We cannot, however, fail to recognize a diathesis which, while still apparently healthy, is predisposed to hysteria. So distinguished a disciple of Charcot as Janet thoroughly recognizes this, and argues ("L'Etat mental," etc., p. 298) that "we may find in the habits, the passions, the psychic automatism of the normal man the germ of all hysterical phenomena." Féré holds a somewhat similar view.

[3] King, "Hysteria," American Journal of Obstetrics, May 18, 1891.

and climacteric. 2. Attacks rarely occur when subject is alone. 3. Subject appears unconscious, but is not really so. 4. She is instinctively ashamed afterward. 5. It occurs usually in single women, or in those, single or married, whose sexual needs are unsatisfied. 6. No external evidence of disease, and (as Aitken pointed out) the nates are not flattened; the woman's physical condition is not impaired, and she may be specially attractive to men. 7. Warmth of climate and the season of spring and summer are conducive to the condition (Russell Reynolds).[1] 8. The paroxysm is short and temporary. 9. While light touches are painful, firm pressure and rough handling give relief. 10. It may occur in the occupied, but an idle, purposeless life is conducive. 11. The subject delights in exciting sympathy and in being fondled and caressed. 12. There is defect of will and a strong stimulus is required to lead to action.

Among civilized women, the author proceeds, this condition does not appear to subserve any useful purpose. "Let us, however, go back to aboriginal woman—to woman of the woods and the fields. Let us picture ourselves a young aboriginal Venus in one of her earliest hysterical paroxysms. In doing so let us not forget some of the twelve characteristics previously mentioned. She will not be 'acting her part' alone, or, if alone, it will be in a place where someone else is likely soon to discover her. Let this Venus be now discovered by a youthful Apollo of the woods, a man with fully developed animal instincts. He and she, like any other animals, are in the free field of Nature. He cannot but observe to himself: 'This woman is not dead; she breathes and is warm; she does not look ill; she is plump and rosy.' He speaks to her; she neither hears (apparently) nor responds. Her eyes are closed. He touches, moves, and handles her at his pleasure. She makes no resistance. What will this primitive Apollo do next? He will cure the fit, and bring the woman back to consciousness, satisfy her emotions, and restore her volition—not by delicate touches that might be 'agonizing' to her hyperesthetic skin, but by vigorous massage, passive motions, and succussion that would be painless. The emotional process on the part of the woman would end, perhaps, with mingled laughter, tears, and shame; and when accused afterward of the part which the ancestrally-acquired properties of her nervous system had compelled her to act, as a preliminary to the event, what woman would not deny it and be angry? But the course of Nature having been followed, the natural purpose of the hysterical paroxysm accomplished, there would remain as

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[1] This observation, however, possesses far greater antiquity than King here assigns to it. It was made among the Greeks, as we have already noted. True hysteria, in the modern sense, appears to be generally regarded as independent of season.

a result of the treatment—instead of one discontented woman—two happy people and the possible beginning of a third."

"Natural, primary sexual hysteria in woman," concludes Dr. King, "is a temporary modification of the nervous government of the body and the distribution of nerve-force (occurring for the most part, as we see it to-day, in prudish women of strong moral principle, whose volition has disposed them to resist every sort of liberty or approach from the other sex), consisting in a transient abdication of the general, volitional, and self-preservational ego, while the reins of government are temporarily assigned to the usurping power of the reproductive ego, so that the reproductive government overrules the government by volition, and thus, as it were, forcibly compels the woman's organism to so dispose itself, at a suitable time and place, as to allow, invite, and secure the approach of the other sex, whether she will or not, to the end that Nature's imperious demand for reproduction shall be obeyed."

It must be pointed out that Dr. King is wholly unjustified, as well as illogical (since he admits it is not a disease), in calling such a condition "hysteria." At the same time, we may admit that his rather fantastic description presents a state which, if not the real physiological counterpart of the hysterical convulsion, is yet distinctly analogous to the latter. The sexual orgasm has this correspondence with the hysterical fit, that they both serve to discharge the nervous centres and relieve emotional tension. It may even happen, especially in the less severe forms of hysteria, that the sexual orgasm takes place during the hysterical fit; this was found by Rosenthal, of Vienna, to be always the case in the semi-conscious paroxysms of a young girl, whose condition was easily cured;[1] no doubt such cases would be more frequently found if they were sought for. In severe forms of hysteria, however, it frequently happens, as so many observers have noted, that normal sexual excitement has ceased to give satisfaction, has become painful, perverted, paradoxical. Breuer and Freud enable us to see how a shock to the sexual emotions, injuring the emotional life at its source, can scarcely fail sometimes to produce such a result. But the necessity for nervous explosion still per-

[1] M. Rosenthal, "Diseases of the Nervous System," vol. ii, p. 44. Féré notes similar cases, "Twentieth Century Practice of Medicine," volume x, p. 551.

sists.[1] It may, indeed, persist, even in an abnormally strong degree, in consequence of the inhibition of normal activities generally. The convulsive fit is the only form of relief open to the tension. "A lady whom I long attended," remarks Ashwell, "always rejoiced when the fit was over, since it relieved her system generally, and especially her brain, from painful irritation which had existed for several previous days." That the fit mostly fails to give real satisfaction, and that it fails to cure the disease, is due to the fact that it is a morbid form of relief. The same character of hysteria is seen, with more satisfactory results for the most part, in the influence of external nervous shock. It was the misunderstood influence of such shocks in removing hysteria which in former times led to the refusal to regard hysteria as a serious disease. During the Rebellion of 1745-46 in Scotland Cullen remarks that there was little hysteria. The same was true of the French Revolution and of the Irish Rebellion, while Rush (in a study "On the Influence of the American Revolution on the Human Body") observed that many hysterical women were "restored to perfect health by the events of the time." In such cases the emotional tension is given an opportunity of explosion in new and impersonal channels, and the chain of morbid personal emotions is broken.

It has been urged by some that the fact that the sexual orgasm fails to remove the disorder in true hysteria excludes a sexual factor of hysteria. It is really, one may point out, an argument in favor of such an element as one of the factors of hysteria. If there were no initial lesion of the sexual emotions, if the natural healthy sexual channel still remained free for the passage of the emotional overflow, then we should expect that it would much oftener come into play in the removal of hysteria. In the more healthy, merely hysteroid condition, the psychic sexual organism is not injured, and still responds normally, removing the abnormal symptoms when allowed to do so. It is the

[1] There seems to be a greater necessity for such explosive manifestations in women than in men, whatever the reason may be. I have brought together some of the evidence pointing in this direction in "Man and Woman," Chapters xii and xiii.

confusion between this almost natural condition and the truly morbid condition, alone properly called hysteria, which led to the ancient opinion, inaugurated by Plato and Hippocrates, that hysteria may be cured by marriage. The difference may be illustrated by the difference between a distended bladder which is still able to contract normally on its contents when at last an opportunity of doing so is afforded and the bladder in which distension has been so prolonged that nervous control had been lost and spontaneous expulsion has become impossible. The first condition corresponds to the constitution which, while simulating an hysterical condition, is healthy enough to react normally in spite of psychic lesions; the second corresponds to a state in which, owing to the prolonged stress of psychic traumatism,—sexual or not,—a definite condition of hysteria has arisen. The one state is healthy, though abnormal; the other is one of pronounced morbidity.

There is some danger of misunderstanding in this suggestion that a condition of true hysteria is linked on to almost healthy states, and especially to a condition which may be described as one of sex-hunger. But such a suggestion may help us to see these puzzling phenomena in their true nature and perspective. Provided, moreover, that we recognize the definite character of hysteria as a disease, "one and indivisible," we obtain greater clearness rather than greater obscurity by recognizing, also, that the phenomena observed by the ancients, though improperly confounded with hysteria, as we have finally learned to define its symptoms (as well as with epilepsy), still have a basis of physiological truth, and still have a bearing on the general psychology of sex, as constituting a manifestation of auto-erotism.

At this point I may refer to the interesting parallel, and probable real relationship, between hysteria and chlorosis. As Luzet has said, hysteria and chlorosis are sisters. We have seen that there is some ground for regarding hysteria as an exaggerated form of a normal process which is really an auto-erotic phenomenon. There is some ground, also, for regarding chlorosis as the exaggeration of a physiological state connected with sexual conditions, more specifically with the preparation for maternity. Hysteria is so frequently associated with anemic conditions that Biernacki has argued that such conditions

really constitute the primary and fundamental cause of hysteria (*Neurologisches Centralblatt*, March, 1898). And centuries before Biernacki, Sydenham had stated his belief that poverty of the blood is the chief cause of hysteria.

It would be some confirmation of this position if we could believe that chlorosis, like hysteria, is in some degree a congenital condition. This was the view of Virchow, who regarded chlorosis as essentially dependent on a congenital hypoplasia of the arterial system. Stieda, on the basis of an elaborate study of twenty-three cases, has endeavored to prove that chlorosis is due to a congenital defect of development (*Zeitschrift für Geburtshülfe und Gynäkologie*, vol. xxxii, Part 1, 1895). His facts tend to prove that in chlorosis there are signs of general ill-development, and that in particular there is imperfect development of the breasts and sexual organs, with a tendency to contracted pelvis. Charrin, again, regards utero-ovarian inadequacy as at least one of the factors of chlorosis. Chlorosis, in its extreme form, may thus be regarded as a disorder of development, a sign of physical degeneracy. Even if not strictly a cause, a congenital condition may, as Stockman believes (*British Medical Journal*, December 14, 1895), be a predisposing influence.

However it may be in extreme cases, there is very considerable evidence to indicate that the ordinary anemia of young women may be due to a storing up of iron in the system, and is so far normal, being a preparation for the function of reproduction. Some observations of Bunge's seem to throw much light on the real cause of what may be termed physiological chlorosis. He found by a series of experiments on animals of different ages that young animals contain a much greater amount of iron in their tissues than adult animals; that, for instance, the body of a rabbit an hour after birth contains more than four times as much iron as that of a rabbit two and a half months old. It thus appears probable that at the period of puberty and later there is a storage of iron in the system preparatory to the exercise of the maternal functions. It is precisely between the ages of 15 and 23, as Stockman found by an analysis of his own cases (*British Medical Journal*, December 14, 1895), that the majority of cases occur; there was, indeed, he found, no case in which the first onset was later than the age of 23. A similar result is revealed by the charts of Lloyd Jones, which cover a vastly greater number of cases.

It is to Lloyd Jones that we owe the most important contribution to the knowledge of chlorosis in its physiological or normal relationships. He has shown that chlorosis is but the exaggeration of a condition that is normal at puberty (and in many women at each menstrual period), and which, there is good reason to believe, even has a favorable influence on fertility. He found that light-complexioned persons are more

fertile than the dark complexioned, and that at the same time the blood of the latter is of less specific gravity, containing less hemoglobin. Lloyd Jones also reached the generalization that girls who have had chlorosis are often remarkably pretty, so that the tendency to chlorosis is associated with all the sexual and reproductive aptitudes that make a woman attractive to a man. His conclusion is that the normal condition of which chlorosis is the extreme and pathological condition is a preparation for motherhood (E. Lloyd Jones, "Chlorosis: the Special Anemia of Young Women," 1897; also numerous reports to the British Medical Association, published in the *British Medical Journal*. There was an interesting discussion of the theories of chlorosis at the Moscow International Medical Congress in 1898: see proceedings of the congress, volume iii, section v, pp. 224 *et seq.*).

We may thus, perhaps, understand why it is that hysteria and anemia are often combined, and why they are both most frequently found in adolescent young women who have yet had no sexual experiences. Chlorosis is a physical phenomenon, hysteria an auto-erotic psychic phenomenon; yet both alike may, to some extent at least, be regarded as sexual aptitude showing itself in extreme and pathological forms.

III.

The Prevalence of Masturbation—Its Occurrence in Infancy and Childhood—Is it More Frequent in Males or Females?—After Adolescence Apparently More Frequent in Women—Reasons for the Sexual Distribution of Masturbation—The Alleged Evils of Masturbation—Historical Sketch of the Views held on this Point—The Symptoms and Results of Masturbation—Its Alleged Influence in causing Eye Disorders—Its Relation to Insanity and Nervous Disorders—The Evil Effects of Masturbation Usually Occur on the Basis of a Congenitally Morbid Nervous System—Neurasthenia Probably the Commonest Accompaniment of Excessive Masturbation—Precocious Masturbation Tends to Produce Aversion to Coitus—Psychic Results of Habitual Masturbation—Masturbation in Men of Genius—Masturbation as a Nervous Sedative—Typical Cases—The Greek Attitude toward Masturbation—Attitude of the Catholic Theologians—The Mohammedan Attitude—The Modern Scientific Attitude—In what Sense is Masturbation Normal?—The Immense Part in Life played by Transmuted Auto-erotic Phenomena.

The foregoing sketch will serve to show how vast is the field of life—of normal, and not merely abnormal life—more or less infused by auto-erotic phenomena. If, however, we proceed to investigate precisely the exact extent, degree, and significance of such phenomena, we are met by many difficulties. We find, indeed, that no attempts have been made to study auto-erotic phenomena, except as regards the group—a somewhat artificial group, as I have already tried to show—collected under the term "masturbation," while even here such attempts have only been made among abnormal classes of people, or have been conducted in a manner scarcely likely to yield reliable results.[1] Still there is a certain significance in the more careful investigations which have been made to ascertain the precise frequency of masturbation.

Berger, an experienced specialist in nervous diseases, con-

[1] For a bibliography of masturbation, see Rohleder. "Die Masturbation," pp. 11-18.

cludes, in his "Vorlesungen," that 99 per cent. of young men and women masturbate occasionally, while the hundredth conceals the truth;[1] and Hermann Cohn appears to accept this statement as generally true in Germany. So high an estimate has, of course, been called in question, and, since it appears to rest on no basis of careful investigation, we need not seriously consider it. It is useless to argue on suppositions; we must cling to our definite evidence, even though it yields figures which are probably below the mark. Rohleder considers that during adolescence at least 95 per cent. of both sexes masturbate, but his figures are not founded on precise investigation.[2] Moraglia, who made inquiry of 200 women of the lower class in Italy, found that 120 acknowledged either that they still masturbate or that they had done so during a long period.[3] This brings down Berger's 99 per cent. to 60, though it must be admitted that it refers to another country, and only a single sex; and makes no allowance for a balance of unacknowledged practices or for only occasional indulgence in masturbation. "Here in Switzerland," a correspondent writes, "I have had occasion to learn from adult men, whom I can trust, that they have reached the age of twenty-five, or over, without sexual congress. '*Wir haben nicht dieses Bedürfniss.*' is what they say. But I believe that, in the case of the Swiss mountaineers, moderate onanism is practiced, as a rule." In hot countries the same habits are found at a more precocious age. In Venezuela, for instance, among the white Spanish creoles, Ernst found that in all classes boys and girls are infested with the vice of onanism. They learn it early, in the very beginning of life, from their wet-nurses, generally low Mulatto women, and many reasons help to foster the habit: the young men are often dissipated and the young women often remain single.[4] Nicefero, who shows a spe-

[1] Oscar Berger, Archiv für Psychiatrie, B. 6, 1876.

[2] "Die Masturbation," p. 41.

[3] Moraglia, "Die Onanie beim normalen Weibe und bei den Prostituten," Zeitschrift für Criminelle Anthropologie, 1897, p. 489. It should be added that Moraglia is not a very critical investigator. It is probable, however, that on this point his results are an approximation to the truth.

[4] Ernst, "Anthropological Researches on the Population of Venezuela," "Memoirs of the Anthropological Society," vol. iii, 1870, p. 277.

cial knowledge of the working-girl class at Rome, states that in many milliners' and dress-makers' work-rooms, where young girls are employed, it frequently happens that during the hottest hours of the day, between twelve and two, when the mistress or forewoman is asleep, all the girls without exception give themselves up to masturbation.[1] The medical officer of a Prussian reformatory told Rohleder that nearly all the inmates over the age of puberty masturbated. Ferriani, who has made an elaborate study of youthful criminality in Italy, states that even if all boys and girls among the general population do not masturbate, it is certainly so among those that have a tendency to crime. Among 458 adult male criminals, Marro (as he states in his "Carateri dei Delinquenti") found that only 72 denied masturbation, while 386 had practiced it from an early age, 140 of them before the age of thirteen.[2] Among 30 criminal women Moraglia found that 24 acknowledged the practice, at all events in early youth (8 of them before the age of 10, a precocity accompanied by average precocity in menstruation), while he suspected that most of the remainder were not unfamiliar with the practice. Among prostitutes of whatever class or position Moraglia found masturbation (though it must be pointed out that he does not appear to distinguish masturbation very clearly from homosexual practices) to be universal; in one group of 50 prostitutes everyone had practiced masturbation at some period; 28 began between the ages of 6 and 11; 19, between 12 and 14, the most usual period—a precocious one—of commencing puberty; the remaining 3 at 15 and 16; the average of commencing masturbation, it may be added, was 11, while that of the first sexual

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[1] Niceforo, "Il Gergo nei Normali," etc., 1897, cap. v.

[2] While all the evidence shows that a similar condition of things may be found everywhere among criminals, or at all events prisoners, of the European race, I am doubtful how far the same is true of non-European races. Dr. Buchanan, Superintendent of the Central Indian Prison, at Bhagalpur, writes to me: "I have made frequent inquiries about the prevalence of masturbation. It does not appear to be as common as I expected among prisoners. Among the well-to-do, badly trained sons of wealthy natives," he added, "I have had frequent experience of it in medical practice. I remember well the very bad case of a Christian Bible teacher, who consulted me in horror at his weakness."

intercourse was 15.[1] In a larger group of 180 prostitutes, belonging to Genoa, Turin, Venice, etc., and among 23 "elegant cocottes," of Italian and foreign origin, Moraglia obtained the same results; everyone admitted masturbation, and not less than 113 preferred masturbation, either solitary or mutual, to normal coitus. Among the insane, as among idiots, masturbation is somewhat more common among males, according to Blandford, in England, as also it is in Germany, according to Näcke,[2] while Venturi, in Italy, has found it more common among females.[3]

There appears to be no limit to the age at which spontaneous masturbation may begin to appear. I have already referred to the practice of thigh-rubbing in infants under one year of age. J. P. West has reported in detail 3 cases of masturbation in very early childhood—2 in girls, 1 in a boy—in which the practice had been acquired spontaneously, and could only be traced to some source of irritation in pressure from clothing, etc.[4] Probably there is often in such cases an hereditary lack of nervous stability. Block has recorded the case of a girl—very bright for her age, though excessively shy and taciturn—who began masturbating spontaneously at the age of two; in this case the mother had masturbated all her life, even continuing the practice after marriage, and, though she succeeded in refraining during pregnancy, her thoughts still dwelt upon it, while the maternal grandmother had died in an asylum from "masturbatory insanity." Normally there appears to be a varying aptitude to experience the sexual orgasm or any voluptuous sensations before puberty. I find, on eliciting the recollections of normal persons, that in some cases there have been voluptuous sensations from casual contact with the sexual organs at a very early age; in other cases there has been occasional slight excitement from early years; in yet other cases complete sexual anesthesia until the age of puberty. That

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[1] Moraglia, Archivio di Psichiatria, vol. xvi, fasc. 4 and 5, p. 313.

[2] See his careful study, "Die Sex. perversit. in d. Irrenansalt," Psychiatrische Bladen, No. 2, 1899.

[3] Venturi, "Degenerazioni Psico-sessuali," pp. 105, 133, 148, 152.

[4] J. P. West, "Transactions of the Ohio Pediatric Society," 1895. Abstract in Medical Standard, November, 1895.

the latter condition is not due to mere absence of peripheral irritation is shown by a case I am acquainted with, in which a boy of 7, incited by a companion, innocently attempted, at intervals during several weeks, to produce erection by friction of the penis; no result of any kind followed, although erections occurred spontaneously at puberty, with normal sexual feelings.

I am indebted to a correspondent for the following notes:—

"From my observation during five years at a boarding-school it *seems* that eight out of ten boys were more or less addicted to the practice. But I would not state *positively* that such was the proportion of masturbators among an average of thirty pupils, though the habit was very common. I know that in one bedroom, sleeping seven boys, the whole number masturbated frequently. The act was performed in bed, in the closets, and sometimes in the class-rooms during lessons. Inquiry among my friends as to onanism in the boarding-schools to which they were sent elicited somewhat contradictory answers concerning the frequency of the habit. Dr. ——, who went to a French school, told me that *all* the older boys had younger accomplices in mutual masturbation. He also spoke with experience of the prevalence of the practice in a well-known public school in the west of England. B. said *all* the boys at his school masturbated; G. stated that *most* of his schoolmates were onanists; L. said 'more than half' was the proportion.

"At my school manual masturbation was both solitary and mutual; and sometimes younger boys, who had not acquired the habit, were induced to manipulate bigger boys. One very precocious boy of fifteen always chose a companion of ten 'because his hand was like a woman's.' Sometimes boys entered their friend's bed for mutual excitement. In after-life they showed no signs of inversion. Another boy, aged about 14, who had been seduced by a servant-girl, embraced the bolster; the pleasurable sensations, according to his statement, were heightened by imagining that the bolster was a woman. He said that the enjoyment of the act was greatly increased during the holidays, when he was able to spread a pair of his sister's drawers upon the pillow, and so intensify the illusion.

"Before puberty the boys appeared to be more continent than afterward. A few of the older and more intelligent masturbators regulated the habit, as some married men regulate intercourse. The big boy referred to, who chose always the same manipulator, professed to indulge only once in twenty days, his reason being that more frequent repetition of the act would injure his health. About twice a week for boys who had reached puberty, and once a week for younger boys, was, I think, about the average indulgence. I have never met with a parallel of one of

those cases of excessive masturbation recorded by many doctors. There may have been such cases at this school; but, if so, the boys concealed the frequency of their gratifications.

"My experience proved that many of the lads regarded masturbation as reprehensible; but their plea was 'everyone does it.' Some, often those who indulged inordinately and more secretly than their companions, gravely condemned the practice as sinful. A few seemed to think there was 'no harm in it'; but that the habit might stunt the growth and weaken the body if practiced very frequently. The greater number made no attempt to conceal the habit, they enlarged upon the pleasure of it: it was 'ever so much nicer than eating tarts,' etc.

"The chief cause I believe to be initiation by an older schoolmate. But I have known accidental causes, such as the discovery that swarming up a pole pleasurably excited the organ, rubbing to allay irritation, and simple curious handling of the erect penis in the early morning before rising from bed."

I quote the foregoing communication as probably a fairly typical experience in a British school, though I am myself inclined to think that the prevalence of masturbation in schools is often much overrated, for while in some schools the practice is doubtless rampant, in others it is practically unknown, or at all events only practiced by a few individuals in secret. My own early recollections of (private) school-life fail to yield any reminiscences of any kind connected with either masturbation or homosexuality; and, while such happy ignorance may be the exception rather than the rule, I am certainly inclined to believe that—owing to race and climate and healthier conditions of life—the sexual impulse is less precocious and less prominently developed during the school-age in England than in some Continental countries. It is probably to this delayed development that we should attribute the contrast that Ferrero finds ("L'Europa Giovane," pp. 151-56), and certainly states too absolutely, between the sexual reserve of young Englishmen and the sexual immodesty of his own countrymen.

In Germany Näcke has also recently stated ("Kritisches zum Kapitel der Sexualität," *Archiv für Psychiatrie*, pp. 354-56, 1899) that he heard nothing at school either of masturbation or homosexuality, and he records the experience of medical friends who stated that such phenomena were only rare exceptions, and regarded by the majority of the boys as exhibitions of "*Schweinerei*." At other German schools, as Hoche has shown, the phenomena are very prevalent. It is evident that at different schools, and even at the same school at different times, these manifestations vary in frequency within wide limits.

Such variations, it seems to me, are due to two causes. In the first place, they largely depend upon the character of the more influential elder boys. In the second place, they depend upon the attitude

of the head-master. With reference to this point I may quote from a letter written by an experienced master in one of the most famous English public schools: "When I first came to ——, a quarter of a century ago, Dr. —— was making a crusade against this failing; boys were sent away wholesale; the school was summoned and lectured solemnly; and the more the severities, the more rampant the disease. I thought to myself that the remedy was creating the malady, and I heard afterward from an old boy that in those days they used to talk things over by the fireside, and think there must be something very choice in a sin that braved so much. Dr. —— went, and under —— we never spoke of such things. Curiosity died down, and the thing itself, I believe, was lessened. We were told to warn new boys of the dangers to health and morals of such offences, lest the innocent should be caught in ignorance. I have only spoken to a few; I think the great thing is not to put it in boys' heads. I have noticed solitary faults most commonly, and then I tell the boy how he is physically weakening himself. If you notice, it is puppies that seem to go against Nature, but grown dogs never. So if two small boys acted thus I should think it merely an instinctive feeling after Nature which would amend itself. Many here would consider it a heinous sin, but those who think such things sins make them sins. I have seen in the old days most delightful little children sent away, branded with infamy, and scarce knowing why —you might as well expel a boy for scratching his head when it itched. I am sure the soundest way is to treat it as a doctor would, and explain to the boy the physical effects of overindulgence of any sort. When it is combated from the monkish stand-point the evil becomes an epidemic."[1] I am, however, far from anxious to indorse the policy of ignoring the sexual phenomena of youth. It is not the speaking about such things that should be called in question, but the wisdom and good sense of the speaker. We ought to expect a head-master to possess both an adequate acquaintance with the nature of the phenomena of auto-erotism and homosexuality and a reasonable amount of tact in dealing with boys; he may then fairly be trusted to exercise his own judgment. It may be doubted whether boys should be made too alive to the existence of sexual phenomena: there can be no doubt about their teachers. The

[1] No doubt it is not impossible to coerce a school into the paths of virtue. Dr. Hime, formerly head-master of Foyle College, Londonderry, claims to have been successful by this method: but, as he admits, it is necessary that the arrangements of the school should be largely made with a special view to the prevention of such offences (C. W. Hime, "Schoolboys' Special Immorality," 1899). Such a state of things can scarcely be wholesome nor constitute a fitting preparation for the world. A much better plan is the introduction of the healthy association of the sexes in co-education.

same is, of course, true as regards girls, among whom the same phenomena, though less obtrusive, are not less liable to occur.

As to whether masturbation is more common in one sex than the other, there have been considerable differences of opinion. Tissot considered it more prevalent among women: Christian believes it commoner among men; Deslandes held that there are no sexual differences, and Garnier is doubtful. Lawson Tait, in his "Diseases of Women," stated his opinion that, while very common among boys, it is relatively rare among women, and then usually taught. Spitzka also finds it relatively rare among women, and Dana considers it commoner in boys than in girls or adults.[1] Moll is inclined to think that masturbation is less common in women and girls than in the male sex. Rohleder believes that after puberty, when it is equally common in both sexes, it is more frequently found in men, but that women masturbate with more passion and imaginative fervor.[2] Sudduth says it is equally prevalent in both sexes. This is also the opinion of Kellogg, who adds that women are more secretive. Morris considers, on the other hand, that persistent masturbation is commoner in women, and accounts for this by the healthier life and traditions of boys. Pouillet, who studied the matter with considerable thoroughness in France, came to the conclusion that masturbation is commoner among women, among whom he found it to be equally prevalent in rich and poor, and especially so in the great centres of civilization. Näcke, in Germany, con-

[1] This is, no doubt, the most common opinion, and it is frequently repeated in text-books. It is scarcely necessary, however, to point out that only the opinions of those who have given special attention to the matter can carry any weight. R. W. Shufeldt ("On a Case of Female Impotency," pp. 5-7) quotes the opinions of various cautious observers as to the difficulty of detecting masturbation in women.

[2] This latter opinion is confirmed by Näcke so far as the insane are concerned. In a careful study of sexual perversity in a large asylum, Näcke found that, while moderate masturbation could be more easily traced among men than among women, excessive masturbation was more common among women. And, while among the men masturbation was most frequent in the lowest grades of mental development (idiocy and imbecility) and least frequent in the highest grades (general paralysis), in the women it was the reverse. (P. Näcke, "Die Sexuellen Perversitaten in der Irrenanstalt." Psychiatrische en Neurologische Bladen, No. 2, 1899.)

siders that there is much evidence pointing in the same direction. Moraglia, also, is decidedly of the opinion, on the ground of his own observations already alluded to, that masturbation is more frequent among women; he refers to the fact—a very significant fact, as I shall elsewhere have to point out—that, while in man there is only one sexual centre, the penis, in woman there are several centres,—the clitoris, the vagina, the uterus, the breasts,[1] —and he mentions that he knew a prostitute, a well-developed brunette of somewhat nervous temperament, who boasted that she knew fourteen ways of masturbating herself.

My own opinion is that the question of the sexual distribution of masturbation has been somewhat obscured by that harmful tendency, to which I have already alluded, to concentrate attention on a particular set of auto-erotic phenomena. We must group and divide our facts rationally if we wish to command them. If we confine our attention to very young children, the available evidence shows that the practice is much more common in females,[2] and such a result is in harmony with the fact that precocious puberty is most often found in female children.[3] At puberty and adolescence occasional or frequent masturbation is very common in both boys and girls, though, I believe, less common than is sometimes supposed; it is difficult to say whether it is more prevalent among boys or girls; one would be inclined to conclude that it prevails chiefly among boys, if it were not for the fact that boys' traditions and their more active life keep the tendency in abeyance, while in girls there is much less frequently

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[1] Mammary masturbation sometimes occurs: see, *e.g.*, Rohleder, "Die Masturbation" (pp. 32-33); it is, however, rare, and I have never met with it in an auto-erotic form.

[2] Hirschsprung pointed out this, indeed, fifteen years ago, on the ground of his own experience. And see Rohleder, pp. 44-47.

[3] In many cases, of course, the physical precocity is associated with precocity in sexual habits. An instructive case is reported (Alienist and Neurologist, October, 1895) of a girl of 7, a beautiful child of healthy family, and very intelligent, who from the age of 3 was perpetually masturbating when not watched. The clitoris and mons veneris were those of a fully-grown woman, and the child was as well informed upon most subjects as an average woman. She was cured by care and hygienic attention, and when seen last was in excellent condition.

any restraining influence of corresponding character.[1] In my study of inversion I have found that ignorance and the same absence of tradition are probably factors in the prevalence of homosexual tendencies among women.[2] After adolescence I think there can be no doubt that masturbation is more common in women than in men. Men have, by this time, mostly adopted some method of sexual gratification with the opposite sex; women are to a much larger extent shut out from such gratification; moreover, while in rare cases women are sexually precocious, it more often happens that their sexual impulses only gain strength and self-consciousness after adolescence has passed. I have been much impressed by the frequency with which masturbation is occasionally (especially about the period of menstruation) practiced by active, intelligent, and healthy women, who otherwise lead a chaste life. This experience is confirmed by others, who are in a position to ascertain the facts among normal people; thus a lady, who has received the confidence of many women, told me that she believes that all women, who remain unmarried, masturbate, as she found so much evidence pointing in this direction.[3] This statement certainly needs some qualification, though I believe it is not far from the truth as regards young and healthy women who, after having normal sexual relationships, have been compelled for some reason or other to break them off and lead a lonely life. But we have to remember that there are some women, evidently with a considerable degree of congenital

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[1] R. T. Morris, of New York, has also pointed out the influence of traditions in this respect. "Among boys," he remarks, "there are traditions to the effect that self-abuse is harmful, so that about the only boys who injure themselves badly by masturbation are the ones whose parents keep them away from other boys, for fear that they may learn bad habits, and the boys who live in thinly-settled country-districts. Among the girls, however, there are no such saving traditions, and when preputial adhesions call the girl's attention to the clitoris, she may become a persistent masturbator." I quote this passage because I think it attributes somewhat too large a part to tradition, which is by no means the only restraining influence.

[2] H. Ellis, "Studies in the Psychology of Sex," volume i, "Sexual Inversion," Chapter IV.

[3] It will be possible to give greater precision to the foregoing statements when, in a subsequent volume of these "Studies," I proceed to analyze the sexual histories of normal persons.

sexual anesthesia (no doubt, in some respect or another below the standard of normal health), in whom the sexual instinct has never been aroused, and who not only do not masturbate, but do not show any desire for normal gratification; while in a large proportion of other cases the impulse is gratified passively in ways I have already referred to. The auto-erotic phenomena which take place in this way, spontaneously, by yielding to revery, with little or no active interference, certainly occur much more frequently in women than in men. On the other hand, contrary to what one might be led to expect, the closely-related auto-erotic phenomena during sleep seem to take place more frequently in men, although in women, as we have found ground for concluding, they reverberate much more widely and impressively on the waking psychical life.

We must now turn to that aspect of our subject which in the past has always seemed the only aspect of auto-erotic phenomena meriting attention: the symptoms and results of masturbation. It appears to have been an Englishman who, at the beginning of the eighteenth century, first called attention to the supposed evils of masturbation. His book was published in London, and entitled: "Onania, or the Heinous Sin of Self-pollution, and all its Frightful Consequences in both Sexes, Considered, with Spiritual and Physical Advice," etc. It is not a serious medical treatise, but an early and certainly superior example of a kind of literature which we have since become familiar with in all the daily newspapers. A large part of the book, which is cleverly written, is devoted in the later editions to the letters of nervous and hypochondriacal young men and women, who are too shy to visit the author, but request him to send a bottle of his "Strengthening Tincture," and mention that they are inclosing half a guinea, a guinea, or still larger sum. Concerning the composition of the "Strengthening Tincture" we are not informed.[1] This work, which was subsequently attributed to a

[1] It may, however, be instructive to observe that at the end of the volume we find an advertisement of "Dr. Robinson's Treatise on the Virtues and Efficacy of a Crust of Bread, Eat Early in the Morning Fasting."

writer named Bekkers (who is not to be found in the "Dictionary of National Biography") is said to have passed through no less than eighty editions, and it was translated into German. Tissot, a physician of Launsanne, followed with his "Traité de l'Onanisme: Dissertation sur les Maladies produites par la Masturbation," first published in Latin (1760), then in French (1764), and afterward in nearly all European languages. He regarded masturbation as a crime, and as "an act of suicide." His book is a production full of amusing exaggeration and rhetoric, zealously setting forth the prodigious evils of masturbation in a style which combines, as Christian remarks, the strains of Rousseau with a vein of religious piety. Tissot included only manual self-abuse under the term, "onanism"; shortly afterward, Voltaire, in his "Dictionnaire Philosophique," took up the subject, giving it a wider meaning and still further popularizing it. Finally Lallemand, at a somewhat later period (1836), wrote a book which was, indeed, more scientific in character, but which still sought to represent masturbation as the source of all evils. These four writers—the author of "Onania," Tissot, Voltaire, Lallemand—are certainly responsible for much. The mistaken notions of many medical authorities, carried on by tradition, even down to our own time; the powerful lever which has been put into the hand of unscrupulous quacks; the suffering, dread, and remorse experienced in silence by many thousands of ignorant and often innocent young people, may all be traced, in large measure, back to these four well-meaning, but (on this question) misguided, authors.

There is really no end to the list of real or supposed symptoms and results of masturbation, as given by various medical writers during the present century. Insanity, epilepsy, numerous forms of eye disease, supra-orbital headache, occipital headache (Spitzka), strange sensations at the top of the head (Savage), various forms of neuralgia (Anstie, J. Chapman), tenderness of the skin in the lower dorsal region (Chapman), mammary tenderness (Lacassagne), asthma (Peyer), the appearance of vesicles on wounds (Baraduc), acne and other forms of cutaneous eruptions (the author of "Onania," Clipson), dilated pupils (Skene, Lewis,

Moraglia), eyes directed upward and sideways (Pouillet), dark rings around the eyes, painful menstruation (J. Chapman), catarrh of uterus and vagina (Winckel, Pouillet), hypertrophied sexual organs, pale and discolored skin (Lewis, Moraglia), redness of nose (Gruner), epistaxis (Joal, J. N. Mackenzie), morbid changes in nose (Fliess), convulsive cough of puberty (Gowers), acidity of vagina (R. W. Shufeldt), incontinence of urine in young women (Girandeau), warts on the hands in women (Durr, Kriechmar, von Oye), hallucinations of smell, hallucinations of hearing (Griesinger, Lewis), a statuesque bearing, indican in the urine (Herter), an indescribable odor of the skin in women (Skene), these are but a few of the signs and consequences of masturbation given by various prominent authorities.[1]

That many of these manifestations do occur in connection with masturbation is unquestionable; there is also good reason to believe that some of them may be the results of masturbation acting on an imperfectly healthy organism. But in all such cases we must speak with great caution, for there appears to be little reliable evidence to show that simple masturbation, in a well-born and healthy individual, can produce any evil results beyond slight functional disturbances, and these only when it is practiced in excess. To illustrate the real pathological relationships of masturbation, a few typical and important disorders may be briefly considered.

The delicate mechanism of the eye is one of the first portions of the nervous apparatus to be disturbed by any undue strain on the system; it is not surprising that masturbation should be widely incriminated as a cause of eye troubles. If, however, we inquire into the results obtained by the most cautious and experienced ophthalmological observers, it grows evident that masturbation, as a cause of disease of the eye, becomes merged into wider causes. In Germany, Hermann Cohn, the distinguished ophthalmic surgeon of Breslau, has dealt fully with the ques-

[1] Pouillet alone enumerates and apparently accepts considerably over one hundred different morbid conditions as signs and results of masturbation.

tion.[1] Cohn, who believes that all young men and women masturbate to some extent, finds that masturbation must be excessive for eye trouble to become apparent. In most of his cases there was masturbation several times daily during from five to seven years, in many during ten years, and in one during twenty-three years. In such cases we are obviously dealing with abnormal persons, and no one will dispute the possibility of harmful results; in some of the cases, when masturbation was stopped, the eye trouble improved. Even in these cases, however, the troubles were but slight, the chief being, apparently, photopsia (a subjective sensation of light), with otherwise normal conditions of pupil, vision, color-sense, and retina. In some cases there was photophobia, and he has also found paralysis of accommodation and conjunctivitis. At a later date Salmo Cohn, in his comprehensive monograph on the relationship between the eye and the sexual organs in women, brought together numerous cases of eye troubles in young women associated with masturbation, but in most of these cases masturbation had been practiced with great frequency for a long period and the ocular affections were usually not serious.[2] In England, Power has investigated the relations of the sexual system to eye disease. He is inclined to think that the effects of masturbation have been exaggerated, but he believes that it may produce such for the most part trivial complaints as photopsiæ, muscæ, muscular asthenopia, possibly blepharospasm, and perhaps conjunctivitis. He goes on, however, to point out that more serious complaints of the eye are caused by excess in normal coitus, by sexual abstinence, and especially by disordered menstruation. Thus we see that even when we are considering a mechanism so delicately poised and one so easily disturbed by any jar of the system as vision, masturbation produces no effect except when carried to an extent which argues an hereditarily imperfect organism, while even in these cases the effects are usually but slight; are, moreover, in no respect spe-

[1] "Augenkrankheiten bei Masturbanten," Knapp-Schweigger's Archiv für Augenheilkunde, B. 11, 1882, p. 198.

[2] Salmo Cohn, "Uterus und Auge," 1890, pp. 63-66.

cific: but are paralleled and even exceeded by the results of other disturbances of the sexual system.

Let us turn to the supposed influence of masturbation in causing insanity and nervous diseases. Here we may chiefly realize the immense influence exerted on medical science by Tissot and his followers during a hundred years. Sir William Ellis, an alienist of considerable reputation at the beginning of the present century, could write with scientific equanimity: "I have no hesitation in saying that, in a very large number of patients in all public asylums, the disease may be attributed to that cause." He does, indeed, admit that it may be only a symptom sometimes, but goes on to assert that masturbation "has not hitherto been exhibited in the awful light in which it deserves to be shown," and that "in by far the greater number of cases" it is the true cause of dementia.[1] Esquirol lent his name and influence to a similar view of the pernicious influence of masturbation. Throughout the century, even down to the present day, this point of view has been traditionally preserved in a modified form. In apparent ignorance of the enormous prevalence of masturbation, and without, so far as can be seen, any attempt to distinguish between cause and effect or to eliminate the hereditary neuropathic element, many alienists have set down a large proportion of cases of insanity, idiocy, epilepsy, and diseases of the spinal cord to uncomplicated masturbation. Thus, at the Matteawan State Hospital (New York) for criminal lunatics and insane prisoners, from 1875 to 1897, masturbation was the sole assigned cause of insanity in 120 men (out of 1630), and was connected with various causes in numerous other cases; while, according to Dr. Clara Barrus, among 121 cases of insanity in young women, masturbation is the cause in ten cases.[2] It is unnecessary to multiply examples, for this traditional tendency is familiar to all.

It appears to have been largely due to the genius of Griesinger, in the middle of the present century, that we owe the

[1] W. Ellis, "Treatise on Insanity," 1838, pp. 335, 340.

[2] Clara Barrus, "Insanity in Young Women," Journal of Nervous and Mental Disease, June, 1896.

first authoritative appearance of a saner, more discriminating view regarding the results of masturbation.[1] Although still to some extent fettered by the traditions prevalent in his day, Griesinger saw that it was not so much masturbation itself as the feelings aroused in sensitive minds by the social attitude toward masturbation which produced evil effects. "That constant struggle," he wrote, "against a desire which is even overpowering, and to which the individual always in the end succumbs, that hidden strife between shame, repentance, good intentions, and the irritation which impels to the act, this, after not a little acquaintance with onanists, we consider to be far more important than the primary direct physical effect." He added that there are no specific signs of masturbation, and concluded that it is oftener a symptom than a cause. The general progress of educated opinions since that date has, in the main, confirmed and carried forward the results cautiously stated by Griesinger. This distinguished alienist thought that, when practiced in childhood, masturbation might lead to insanity. Berkhan, in his investigation of the psychoses of childhood, found that in no single case was masturbation a cause. Vogel, Uffelmann, and Emminghaus, in the course of similar studies, have all come to almost similar conclusions.[2] It is only on a congenitally morbid nervous system, Emminghaus insists, that masturbation can produce any serious results. "Most of the cases charged to masturbation," writes Kiernan (in a private letter), basing his opinion on wide clinical experience, "are either hebephrenia or hysteria in which an effect is taken for the cause." Christian, during twenty years' experience in hospitals, asylums, and private practice in town and country, has not found any seriously evil effects from masturba-

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[1] A friend tells me that Sir Everard Home (who was under the influence of John Hunter and used his manuscripts) states in one of his surgical works that *occasional* masturbation, about the age of puberty, may be physically beneficial rather than otherwise; but I have not seen the passage.

[2] See, for instance, H. Emminghaus, "Die Psychosen des Kindesalters," "Gerlandt's Handbuch der Kinder-Krankheiten," Nachtrag II, pp. 61-63.

tion.[1] He thinks, indeed, that it may be a more serious evil in women than in men. But Yellowlees considers that in women "it is possibly less exhausting and injurious than in the other sex": and Näcke, who has given special attention to this point, could not find that masturbation is a definite cause of insanity in women in a single case.[2] Koch also reaches a similar conclusion, as regards both sexes, though he admits that masturbation may cause some degree of psychopathic deterioration. Even in this respect, however, he points out that "when practiced in moderation it is not injurious in the certain and exceptionless way in which it is believed to be in many circles. It is the people whose nervous systems are already injured who masturbate most easily and practice it more immoderately than others"; the chief source of its evil is self-reproach and the struggle with the impulse.[3] Kahlbaum, it is true, under the influence of the older tradition, when thirty years ago he erected katatonia into a separate disorder (not always accepted in later times), regarded prolonged and excessive masturbation as a chief cause, but I am not aware that he ever asserted that it was a sole and sufficient cause in a healthy organism. Kiernan, one of the earliest writers on katatonia, was careful to point out that masturbation was probably as much effect as cause of the morbid nervous condition.[4] Maudsley (in "Body and Mind") recognizes masturbation as a special exciting cause of a characteristic form of insanity; but he is careful to add: "Nevertheless, I think that self-abuse seldom, if ever, produces it without the co-operation of the insane neurosis." Schüle also recognized a specific masturbatory insanity, but the general tendency to reject any such nosological form is becoming marked; Krafft-Ebing has long since rejected it and Näcke decidedly opposes it. It is true that Marro, in his recently published admirable and detailed study of the normal and abnormal aspects of puberty, accepts a form of masturbatory

[1] Christian, article "Onanisme," "Dictionnaire encyclopédique des sciences médicales."

[2] Näcke, "Verbrechen und Wahnsinn beim Weibe," 1894, p. 57.

[3] J. L. A. Koch, "Die Psychopathischen Minderwertigkeiten," 1892, p. 273 *et seq.*

[4] J. G. Kiernan, American Journal of Insanity, July, 1877.

insanity; but the only illustrative case he brings forward is a young man possessing various stigmata of degeneracy and the son of an alcoholic father; such a case tells us nothing regarding the results of simple masturbation.[1] Even Spitzka, who maintained several years ago the traditional views as to the terrible results of masturbation, and recognized a special "insanity of masturbation," stated his conclusions with a caution that undermined his position: "Self-abuse," he concluded, "to become a sole cause of insanity, must be begun early and carried very far. In persons of sound antecedents it rarely, under these circumstances, suffices to produce an actual vesania."[2] When we remember that there is no convincing evidence to show that masturbation is "begun early and carried very far" by "persons of sound antecedents," the significance of Spitzka's "typical psychosis of masturbation" is somewhat annulled. It is evident that these distinguished investigators, Marro and Spitzka, have been induced by tradition to take up a position which their own scientific consciences have compelled them practically to evacuate.

The more recent authorities are almost unanimous in rejecting masturbation as a cause of insanity.

It is noteworthy that Rohleder, in his recent comprehensive monograph ("Die Masturbation," 1899, pp. 185-92), although taking a very serious view of the evil results of masturbation, points out the unanimity which is now tending to prevail on this point, and lays it down that "masturbation is never the direct cause of insanity." Sexual excesses of any kind, he adds (following Curschmann), can, at the most, merely give an impetus to a latent form of insanity. On the whole, he concludes, the best authorities are unanimous in agreeing that masturbation may certainly injure mental capacity by weakening memory and depressing intellectual energy; that, further, in hereditarily neurotic subjects, it may produce slight psychoses like *folie du doute*, hypochondria, hysteria; that, finally, under no circumstances can it produce severe psychoses like paranoia or general paralysis. The more moderate view now tending to prevail may also be illustrated from a book which has been widely accepted as an adequate summary of modern doctrines of insanity. "If it caused insanity as often as some claim," Kellogg

[1] Marro, "La Pubertà," Turin, 1898, p. 174.

[2] E. C. Spitzka, "Cases of Masturbation," Journal of Mental Science, July, 1888.

states, "the whole race would long since have passed into masturbatic degeneracy of mind. . . . It is especially injurious in the very young and in all who have weak nervous systems," but "the physical traits attributed to the habit are common to thousands of neurasthenic and neurotic individuals." (Kellogg, "A Text-book of Mental Diseases," 1897, pp. 94-95.) Again, at the outset of the article on "Masturbation" in Tuke's "Dictionary of Psychological Medicine," Yellowlees states that, on account of the mischief formerly done by reckless statements, it is necessary to state plainly that "unless the practice has been long and greatly indulged, no permanent evil effects may be observed to follow." Näcke, again, has recently declared ("Kritisches zum Kapitel der Sexualität," *Archiv für Psychiatrie*, 1899): "There are neither somatic nor psychic symptoms peculiar to onanism. Nor is there any specific onanistic psychosis. I am prepared to deny that onanism ever produces any psychoses in those who are not already predisposed." That such a view is now becoming widely prevalent is illustrated by the cautious and temperate discussion of masturbation in a recent work by a non-medical writer, Geoffrey Mortimer ("Chapters on Human Love," pp. 199-205).

The testimony of expert witnesses with regard to the influence of masturbation in producing other forms of psychoses and neuroses is becoming equally decisive; and here, also, the traditions of Tissot are being slowly effaced. "I have not, in the whole of my practice," wrote West, over thirty years ago, "out of a large experience among children and women, seen convulsions, epilepsy, or idiocy *induced* by masturbation in any child of either sex. Neither have I seen any instance in which hysteria, epilepsy, or insanity in women after puberty was *due* to masturbation, as its efficient cause."[1] Gowers speaks somewhat less positively, but regards masturbation as not so much a cause of true epilepsy as of atypical attacks, sometimes of a character intermediate between the hysteroid and the epileptoid form; this relationship he has frequently seen in boys.[2] Leyden, among the causes of diseases of the spinal cord, does not include any form

[1] Charles West, Lancet, November 17, 1866. As regards hysteria having its origin before puberty, Freud speaks with equal decision, though he points out is frequent association with masturbation (Neurologisches Centralblatt, No. 10, 1896). Féré, on the other hand, considers that onanism may be a cause of hysteria.

[2] Gowers, "Epilepsy," 1881, p. 31.

of sexual excess. Erb remarks: "In moderation, masturbation is not more dangerous to the spinal cord than natural coitus, and has no bad effects";[1] it makes no difference, Erb considers, whether the orgasm is effected normally or in solitude. This is also the opinion of Toulouse, of Fürbringer, and of Curschmann.

While these authorities are doubtless justified in refusing to ascribe to masturbation any part in the production of psychic or nervous diseases, it seems to me that they are going somewhat beyond their province when they assert that masturbation has no more injurious effect than coitus. If the sexual orgasm were a purely physiological phenomenon, this position would be sound. But the sexual orgasm is normally bound up with a mass of powerful emotions aroused by a person of the opposite sex. It is in the joy caused by the play of these emotions, as well as in the discharge of the sexual orgasm, that the satisfaction of coitus resides. In the absence of the desired partner the orgasm, whatever relief it may give, must be followed by a sense of dissatisfaction, perhaps of depression, even of exhaustion. Practically, also, there is more probability of excess in masturbation than in coitus, and more likelihood of arousing the orgasm when the nervous system is exhausted, as well as of doing so with undue violence. Whether, as some have asserted, masturbation involves a greater nervous effort than coitus is more doubtful. (See, also, a discussion of these points by Rohleder, "Die Masturbation," pp. 168-175.) It thus seems somewhat misleading to assert that masturbation has no more injurious effect than coitus.

Reviewing the general question of the supposed grave symptoms and signs of masturbation, and its pernicious results, we may reach the conclusion that in the case of moderate masturbation in healthy, well-born individuals, no pernicious results follow.[2] With regard to the general signs, we may accept, as concerns both sexes, what the Obstetrical and Gynecological Society of Berlin decided in 1861, in a discussion of it in women, that there are none which can be regarded as reliable.[3] With regard

[1] Ziemssen's "Handbuch," B. 11.

[2] It is interesting to note that an analogous result seems to hold with animals. Among highly-bred horses excessive masturbation is liable to occur with injurious results. It is scarcely necessary to point out that highly-bred horses are abnormal.

[3] With regard to the physical signs, the same conclusion is reached by Legludic (in opposition to Martineau) on the basis of a large experience. He has repeatedly found in young girls, who acknowledged fre-

to alleged pernicious results generally, we may note the conclusion reached by Sir James Paget many years ago in his lecture on "Sexual Hypochondriasis": "Masturbation," he said, "does neither more or less harm than sexual intercourse practiced with the same frequency in the same conditions of general health and age and circumstances. I wish," he added, "that I could say something worse of so nasty a practice." As I have already stated, we may certainly say "something worse," by pointing out that if masturbation often does no more harm than sexual intercourse, it usually does less good. And we may conclude finally, with Clouston, that the opposing views on the subject may be simply explained by the fact that the writers on both sides have ignored or insufficiently recognized the influence of heredity and temperament. They have done precisely what so many unscientific writers on inebriety have continued to do unto the present day, when describing the terrible results of alcohol without pointing out that the chief factor in such cases has not been the alcohol, but the organization on which the alcohol acted. Many healthy persons of sound stock can bear witness that not only the moderate use of alcohol, but even occasional excess, produces no serious result. Excess may act, according to the familiar old-fashioned adage, like the lighted match. But we must always remember the obvious truth, that it makes a considerable difference whether you threw your lighted match into a powder magazine or into the sea.

While we may thus dismiss the extravagant views widely held during the past century, concerning the awful results of masturbation, as due to ignorance and false tradition, it must be pointed out that, even in healthy or moderately healthy individuals, any excess in solitary self-excitement may still produce results which, though slight, are yet harmful. The skin, digestion, and circulation may all be disordered; headache and neu-

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quent masturbation, that the organs were perfectly healthy and normal, and his convictions are the more noteworthy, since he speaks as a pupil of Tardieu, who attached very grave significance to the local signs of sexual perversity and excess. Legludic, "Notes et Observations de Médecine Légale," 1896, p. 95.

ralgia may occur; and, as in normal sexual excess or in undue frequency of sexual excitement during sleep, there is a certain general lowering of nervous tone. Probably the most important of the comparatively frequent results—though this also arises usually on a somewhat morbid soil—is neurasthenia, with its manifold symptoms. There can be little doubt that the ancient belief, dating from Hippocrates, that sexual excesses produce spinal disease, as well as the belief that masturbation causes insanity, are largely due to the failure to diagnose neurasthenia.

The following case of neurasthenia, recorded by Eulenberg, may be given as a classical picture of the nervous disturbances which may be associated with masturbation, and are frequently regarded as solely caused by habits of masturbation: Miss H. H., 28 years of age, robust, of dark complexion, with fully-developed figure, without any trace of anemia or chlorosis, but with apathetic expression, bluish rings around the eyes, with hypochondriacal and melancholy feelings. She complains of pressure on the head ("as if head would burst"), giddiness, ringing in the ears, photopsia, hemieranía, pains in the back and at sacrum, and all the syndromes of spinal adynamia, with a sense of fatigue on the least exertion in walking or standing; she sways when standing with closed eyes, tendon-reflexes exaggerated; there is a sense of oppression, intercostal neuralgia, and all the signs of neurasthenic dyspepsia; and cardialgia, nausea, flatulence, meteorism, and alternate constipation and diarrhœa. She chiefly complains of a feeling of weight and pain in the abdomen, caused by the slightest movement, and of a form of pollution (with clitoridian spasms), especially near menstruation, with copious flow of mucus, characteristic pains, and hyperexcitability. Menstruation was irregular and profuse. Examination showed tumid and elongated nymphæ, with brown pigmentation; large vagina, with rudimentary hymen; and retroflexion of uterus. After much persuasion the patient confessed that, when a girl of 12, and as the result of repeated attempts at coitus by a boy of 16, she had been impelled to frequent masturbation. This had caused great shame and remorse, which, however, had not sufficed to restrain the habit. Her mother having died, she lived alone with her father, and had no one in whom to confide. Regarding herself as no longer a virgin, she had refused several offers of marriage, and thus still further aggravated her mental condition.

Since Beard first described neurasthenia, many diverse opinions have been expressed concerning the relationships of sexual irregularities to neurasthenia. Gilles de la Tourette, in his little monograph on neurasthenia, following the traditions of Charcot's school, dismisses the ques-

tion of any sexual causation without discussion. Binswanger ("Die Pathologie und Therapie der Neurasthenie"), while admitting that nearly all neurasthenic persons acknowledge masturbation at some period, considers it is not an important cause of neurasthenia, only differing from coitus by the fact that the opportunities for it are more frequent, and that the sexual disturbances of neurasthenia are, in the majority of cases, secondary. Rohleder, on the other hand, who takes a very grave view of the importance of masturbation, considers that its most serious results are a question of neurasthenia. Krafft-Ebing has declared his opinion that masturbation is a cause of neurasthenia. T. D. Savill ("Clinical Lectures on Neurasthenia," 1899, p. 37) regards masturbation as an important causal agent of neurasthenia. Collins and Phillip (*Medical Record*, March 25, 1899), in an analysis of 333 cases of neurasthenia, found that 123 cases were apparently due to overwork or masturbation. Freud concludes that neurasthenia proper can nearly always be traced to excessive masturbation or to some interference with the normal sexual act. This view is confirmed by Gattel's careful study ("Ueber die Sexuellen Ursachen der Neurasthenie und Angstneurose," 1898). Gattel investigated 100 consecutive cases of severe functional nervous disorder in the clinic of Professor Krafft-Ebing at Vienna, and found that in every case of neurasthenia in a male (28 in all) there was masturbation, while of the 15 women with neurasthenia only 1 is recorded as not masturbating, and she practiced *coitus reservatus*. Irrespective of the particular form of the nervous disorder, Gattel found that 18 women out of 42 and 36 men out of 58 acknowledged masturbation. (This shows a slightly larger proportion among the men, but the men were mostly young, while the women were mostly of more mature age.) It must, however, always be remembered that we have no equally careful statistics of masturbation in perfectly healthy persons. We must also remember that we have to distinguish between the *post* and the *propter*, and that it is quite possible that neurasthenic persons are specially predisposed to masturbation.

On the whole, there can be little doubt that neurasthenia is liable to be associated with masturbation, carried to an excessive extent. But, while neurasthenia is probably the severest affection that is liable to result from, or accompany, masturbation, we are scarcely yet entitled to accept the conclusion of Gattel that in such cases there is no hereditary neurotic predisposition. We must steer clearly between the opposite errors of those, on the one hand, who assert that heredity is the sole cause of functional nervous disorders, and those, on the other hand, who consider that the incident that may call out the disorder is itself a sole sufficient cause.

In many cases it has seemed to me that masturbation, when

practiced in excess before the age of puberty, has led, more especially in women, to an aversion for normal coitus in later life. In such cases some peripheral irritation or abnormal mental stimulus trains the physical sexual orgasm to respond to an appeal which has nothing whatever to do with the fascination normally exerted by the opposite sex. At puberty, however, the claim of passion and the real charm of sex begins to make itself felt, but, owing to the physical sexual feelings having been trained into a foreign channel, these new and more normal sex associations remain of a purely ideal and emotional character, without the strong sensual impulses by which under healthy conditions they tend to be more and more associated as puberty passes on into adolescence or mature adult life. I am fairly certain that in many women, often highly intellectual women, the precocious excess in masturbation has been a main cause, not necessarily the sole efficient cause, in producing a divorce in later life between the physical sensuous impulses and the ideal emotion. The sensuous impulse having been evolved and perverted before the manifestation of the higher emotion, the two groups of feelings have become divorced for the whole of life. This is a common source of much personal misery and family unhappiness, though at the same time the clash of contending impulses may lead to a high development of moral character. When early masturbation is a factor in producing sexual inversion it usually operates in the manner I have here indicated, the repulsion for normal coitus helping to furnish a soil on which the inverted impulse may develop unimpeded.

This point has not wholly escaped previous observers, though they do not seem to have noted its psychological mechanism. Tissot stated that masturbation causes an aversion to marriage. More recently, Loiman ("Ueber Onanismus beim Weibe," *Therapeutische Monatshefte*, April, 1890) considered that masturbation in women, leading to a perversion of sexual feeling, including inability to find satisfaction in coitus, affects the associated centres. Smith Baker, again ("The Neurophysical Element in Conjugal Aversion," *Journal of Nervous and Mental Disease*, September, 1892), finds that a "source of marital aversion seems to lie in the fact that substitution of mechanical and iniquitous excitations affords more thorough satisfaction than the mutual legitimate ones do."

and gives cases in point. Savill, also, who regards masturbation as more common in women than is usually supposed, regards dyspareunia, or pain in coition, as one of the signs of the habit.

On the psychic side, no doubt, the most frequent and the most characteristic result of persistent and excessive masturbation is a morbid heightening of self-consciousness without any co-ordinated heightening of self-esteem. The man or woman who is kissed by a desirable and desired person of the opposite sex feels a satisfying sense of pride and elation, which must always be absent from the manifestations of auto-erotic activity. This must be so, even apart from the masturbator's consciousness of the general social attitude toward his practices and his dread of detection, for that may also exist as regards normal coitus without any corresponding psychic effects. The masturbator, if his practice is habitual, is thus compelled to cultivate an artificial consciousness of self-esteem, and may show a tendency to mental arrogance. Self-righteousness and religiosity constitute, as it were, a protection against the tendency to remorse. A morbid mental soil is, of course, required for the full development of these characteristics. The habitual male masturbator, it must be remembered, is often a shy and solitary person: individuals of this temperament are especially predisposed to excesses in all the manifestations of auto-erotism, while the yielding to such tendencies increases the reserve and the horror of society, at the same time producing a certain suspicion of others. The habitual female masturbator, on the other hand, is often abnormally deficient in feminine shyness.[1] This is not, of course, invariable. Spitzka has noted a tendency to indecision, self-reproach, and mental depression as common in women who have extensively practiced masturbation before and after marriage. In either case, auto-erotic excesses of this kind appearing during adolescence in young men and women of intelligence—whatever absence of gross injury to health there may be—often produce a certain degree of

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psychic perversion, and tend to foster false and high-strung ideals of life. I have already quoted Anstie's remarks on the frequent connection between masturbation and premature false work in literature and art. It may be added that excess in masturbation has often occurred in men and women whose work in literature and art cannot be described as premature and false. K. P. Moritz, in early adult life, gave himself up to excess in masturbation, and up to the age of thirty had no relations with women. Rousseau, in his "Confessions," admirably describes how his own solitary, timid, and imaginative life found its chief sexual satisfaction in masturbation.[1] Gogol, the great Russian novelist, masturbated to excess, and it has been suggested that the dreamy melancholy thus induced was a factor in his success as a novelist. Goethe, it has been asserted, at one time masturbated to excess; I am not certain on what authority the statement is made, probably on a passage in the seventh book of "Dichtung und Wahrheit," in which, describing his student-life at Leipzig, and his loss of Aennchen, owing to his neglect of her, he tells how he revenged that neglect on his own physical nature by foolish practices from which he thinks he suffered for a considerable period.[2] That, at the present day, eminence in art and literature may be combined with the excessive practice of masturbation is a fact of which I have unquestionable evidence. How far masturbation, in moderately healthy persons living without normal sexual relationships, may be considered normal is a difficult question, only to be decided with reference to individual cases. As a gen-

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[1] "I learnt that dangerous supplement," Rousseau tells us (Part 1, Bk. III), "which deceives Nature. This vice, which bashfulness and timidity find so convenient, has, moreover, a great attraction for lively imaginations, for it enables them to do what they will, so to speak, with the whole fair sex, and to enjoy at pleasure the beauty who attracts them without having obtained her consent."

[2] "Ich hatte sie wirklich verloren, und die Tollheit, mit der ich meinen Fehler an mir selbst rächte, indem ich auf mancherlei unsinnige Weise in meine physische Natur stürmte, um der sittlichen etwas zu Leide zu thun, hat sehr viel zu den körperlichen Uebeln beigetragen, unter denen ich einige der besten Jahre meines Lebens verlor; ja ich wäre vielleicht an diesem Verlust völlig zu Grunde gegangen, hätte sich hier nicht das poetische Talent mit seinen Heilkraften besonders hülfreich erwiesen."

eral rule, it may be laid down that when masturbation is only practiced at rare intervals, and *faute de mieux*, in order to obtain relief for physical oppression and mental obsession, it may be regarded as the natural result of unnatural circumstances; but that when, as often happens in mental degeneracy—and as in shy and imaginative persons, perhaps of slightly neurotic temperament, may also sometimes become the case—it is practiced in preference to sexual relationships, it at once becomes abnormal and may possibly lead to a variety of harmful results, mental and physical.[1]

It must always be remembered, however, that, while the practice of masturbation may be harmful in its consequences, it is also, in the absence of normal sexual relationships, frequently not without good results. In the medical literature of the century a number of cases have been incidentally recorded in which the patients found masturbation beneficial, and such cases might certainly have been enormously increased if there had been any open-eyed desire to discover them. My own conclusions are fully in harmony with those of Professor Sudduth, who asserts that "masturbation is, in the main, practiced for its sedative effect on the nervous system. The relaxation that follows the act constitutes its real attraction. . . . Both masturbation and sexual intercourse should be classed as typical sedatives."[2]

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[1] A somewhat similar classification has already been made by Max Dessoir, who points out that we must distinguish between onanists *aus Noth*, and onanists *aus Leidenschaft*, the latter group alone being of really serious importance. The classification of Dallemagne is also somewhat similar; he distinguishes *onanie par impulsion*, occurring in mental degeneration and in persons of inferior intelligence, from *onanie par evocation ou obsession*.

[2] W. Xavier Sudduth. "A Study in the Psycho-physics of Masturbation." Chicago Medical Recorder, March, 1898. Haig, who reaches a similar conclusion, has sought to find its precise mechanism in the blood-pressure. "As the sexual act produces lower and falling blood-pressure," he remarks, "it will of necessity relieve conditions which are due to high and rising blood-pressure, such, for instance, as mental depression and bad temper; and, unless my observation deceives me, we have here a connection between conditions of high blood-pressure with mental and bodily depression and acts of masturbation, for this act will relieve these conditions and tend to be practiced for this purpose." ("Uric Acid," fourth edition, p. 129.)

Gall mentioned a woman in the Salpêtrière who often suffered severe pain in the back of the neck, together with strong sexual desire, which she satisfied by masturbation ten or twelve times a day; "this caused no incommodity, and led to the immediate disappearance of the pain." Clouston ("Mental Diseases," 1887, p. 496) quotes as follows from a letter written by a youth of 22: "I am sure I cannot explain myself, nor give account of such conduct. Sometimes I felt so uneasy at my work that I would go to the w.c. to do it, and it seemed to give me ease, and then I would work like a hatter for a whole week till the sensation overpowered me again. I have been the most filthy scoundrel in existence," etc. Garnier presents the case of a monk, aged 33, living a chaste life, who wrote the following account of his experiences: "For the past three years at least I have felt, every two or three weeks, a kind of fatigue in the penis, or rather slight shooting pains, increasing during several days, and then I feel a strong desire to expel the semen. When no nocturnal pollution follows, the retention of the semen causes general disturbance, headache, and sleeplessness. I must confess that occasionally, to free myself from the general and local oppression, I lie on my stomach and obtain ejaculation. I am at once relieved; a weight seems to be lifted from my chest, and sleep returns." This patient consulted Garnier as to whether this artificial relief was not more dangerous than the sufferings it relieved. Garnier advised that if the ordinary *régime* of a well-ordered monastery, together with anaphrodisiac sedatives, proved inefficacious, the maneuver might be continued when necessary (P. Garnier, "Célibat et Célibataires," 1887, p. 320). H. C. Coe (*American Journal of Obstetrics*, p. 766, July, 1889) gives the case of a married lady who was deeply sensitive of the wrong nature of masturbation, but found in it the only means of relieving the severe ovarian pain, associated with intense sexual excitement, which attended menstruation. During the intermenstrual period the temptation was absent. Turnbull knew a youth who found that masturbation gave great relief to feelings of heaviness and confusion which came on him periodically; and Wigglesworth has frequently seen masturbation after epileptic fits in patients who never masturbated at other times. Moll ("Libido Sexualis," B. 1, p. 13) refers to a woman of 28, an artist of nervous and excitable temperament, who could not find sexual satisfaction with her lover, but only when masturbating, which she did once or twice a day or oftener; without masturbation, she said, she would be in a much more nervous state. A friend tells me of a married lady of 40, separated from her husband on account of incompatibility, who suffered from irregular menstruation; she tried masturbation, and in her own words "became normal again"; she had never masturbated previously. I have also been informed of the case of a young unmarried woman, intellectual, athletic, and well developed, who from the age of seven or eight has

masturbated nearly every night before going to sleep, and would be restless and unable to sleep if she did not.

Judging from my own observations among both sexes, I should say that in normal persons, well past the age of puberty, and otherwise leading a chaste life, masturbation would be little practiced except for the physical and mental relief it brings. Many vigorous and healthy unmarried women, living a life of sexual abstinence, have asserted emphatically that only by sexually exciting themselves, at intervals, could they escape from a condition of nervous oppression and sexual obsession which they felt to be a state of hysteria. In most cases this happens about the menstrual period, and, whether accomplished as a purely physical act or by the co-operation of the imaginative representation of a desired person, the practice is not cultivated for its own sake during the rest of the month.

In illustration of the foregoing statements I will here record a few typical observations of experiences with regard to masturbation. The cases selected are all women, and are all in a fairly normal, and, for the most part, excellent, state of health; some of them, however, belong to somewhat neurotic families, and these are persons of unusual mental ability and intelligence.

Observation I.

Unmarried, aged 38. She is very vigorous and healthy, of a strongly passionate nature, but never masturbated until a few years ago, when she was made love to by a man who used to kiss her, etc. Although she did not respond to these advances, she was thrown into a state of restless sexual excitement; on one occasion when in bed in this restless state she accidentally found on passing her hand over her body that by playing with "a round thing" [clitoris] a pleasurable feeling was produced. She found herself greatly relieved and quieted by these manipulations, though there remained a feeling of tiredness afterward. She has sometimes masturbated six times in a night, especially before and after the menstrual period, until she was unable to produce the orgasm or any feeling of pleasure.

Observation II.

Unmarried, aged 45, of rather nervous temperament. She has for many years been accustomed, usually about a week before the appearance of the menses, to obtain sexual relief by kicking out her legs when

lying down. In this way, she says, she obtains complete satisfaction. She never touches herself. On the following day she frequently has pains over the lower part of the abdomen, such pains being apparently muscular and due to the exertion.

Observation III.

Aged 29, recently married, belonging to a neurotic and morbid family, herself healthy, and living usually in the country; vivacious, passionate, enthusiastic, intellectual, and taking a prominent part in philanthropic schemes and municipal affairs; at the same time fond of society, and very attractive to men. For many years she had been accustomed to excite herself, though she felt it was not good for her. The habit was merely practiced *faute de mieux*. "I used to sit on the edge of the bed sometimes," she said, "and it came over me so strongly that I simply couldn't resist it. I felt that I should go mad, and I thought it was better to touch myself than be insane. . . . I used to press my clitoris in. . . . It made me very tired afterward—not like being with my husband." The confession was made from a conviction of the importance of the subject and with the hope that some way might be found out of the difficulties which so often beset women.

Observation IV.

Unmarried, aged 27; possesses much force of character and high intelligence; is actively engaged in a professional career. As a child of seven or eight she began to experience what she describes as lightning-like sensations, "mere vague, uneasy feelings or momentary twitches which took place alike in the vulva or the vagina or the uterus, not amounting to an orgasm and nothing like it." These sensations, it should be added, have continued into adult life. "I always experience them just before menstruation, and afterward for a few days, and occasionally, though it seems to me not so often, during the period itself. I may have the sensation four or five times during the day: it is not dependent at all upon external impressions or my own thoughts, and is sometimes absent for days together. It is just one flash, as if you would snap your fingers, and it is over."

As a child she was, of course, quite unconscious that there was anything sexual in these sensations. They were then usually associated with various imaginary scenes. The one usually indulged in was that a black bear was waiting for her up in a tree, and that she was slowly raised up toward the bear by means of ropes and then lowered again and raised, feeling afraid of being caught by the bear, and yet having a morbid desire to be caught. In after-years she realized that there was a physical sexual cause underlying these imaginations, and that what she

liked was a feeling of resistance to the bear giving rise to the physical sensation.

At a somewhat later age, though while still a child, she cherished an ideal passion for a person very much older than herself, this passion absorbing her thoughts for a period of two years, during which, however, there was no progress made in physical sensation. It was when she was nearly thirteen years of age, soon after the appearance of menstruation, and under the influence of this ideal passion, that she first learned to experience the sexual orgasm, which was not associated with the thought of any person. "I did not associate it with anything high or beautiful, owing to the fact that I had imbibed our current ideas in regard to sexual feelings, and viewed them in a very poor light indeed." She considers that her sexual feelings were stronger at this period than at any other time in her life. She could, however, often deny herself physical satisfaction for weeks at a time in order that she might not feel unworthy of the object of her ideal passion. "As for the sexual satisfaction," she writes, "it was experimental. I had heard older girls speak of the pleasure of such feelings, but I was not taught anything by example or otherwise. I merely rubbed myself with the wash-rag while bathing, waiting for a result, and having the same peculiar feelings I had so often experienced. I am not aware of any ill effects having resulted, but I felt degraded, and tried hard to overcome the habit. No one had spoken to me of the habit, but from the secrecy of grown people, and passages I had heard from the Bible, I conceived the idea that it was a reprehensible practice. And, while this did not curb my desire, it taught me self-control, and I vowed that each time should be the last. I was often able to keep the resolution for two or three weeks." Some four years later she gradually succeeded in breaking herself of the practice in so far as it had become a habit; she has, however, acquired a fuller knowledge of sexual matters, and, though she has still a great dread of masturbation as a vice, she does not hesitate to relieve her physical feelings when it seems best to her to do so. "I am usually able to direct my thoughts from these sensations," she writes; "but if they seem to make me irritable or wakeful I relieve myself. It is a physical act unassociated with deep feeling of any kind. I have always felt that it was a rather unpleasant compromise with my physical nature, but certainly necessary in my case. Yet I have abstained from gratification for very long periods. If the feeling is not strong at the menstrual period I go on very well without either the sensation or the gratification until the next period. And, strange as it may seem, the best antidote I have found and the best preventive is to think about spiritual things or someone whom I love. It is simply a matter of training, I suppose,—a sort of mental gymnastics,—which draws the attention away from the physical feelings." This lady has never had any sexual relationships,

and, since she is ambitious and believes that the sexual emotions may be transformed so as to become a source of motive power throughout the whole of life, she wishes to avoid such relationships.

Observation V.

Unmarried, aged 31, in good health, with, however, a somewhat hysterical excess of energy, with an accompanying horror of sexual relationships. "When I was about 26 years of age," she writes, "a friend came to me with the confession that for several years she had masturbated, and had become such a slave to the habit that she severely suffered from its ill effects. At that time I had never heard of self-abuse by women. I listened to her story with much sympathy and interest, but some skepticism, and determined to try experiments upon myself with the idea of getting to understand the matter in order to assist my friend. After some manipulation I succeeded in awakening what had before been unconscious and unknown. I purposely allowed the habit to grow upon me, and one night—for I always operated upon myself before going to sleep, never in the morning—I obtained considerable pleasurable satisfaction, but the following day my conscience awoke: I also felt pain located at the back of my head, and down the spinal column. I ceased my operations for a time, and then began again somewhat regularly, once a month a few days after menstruation. During those months in which I exercised moderation I think I obtained much local relief with comparatively little injury, but later on, finding myself in robust health, I increased my experiments, the habit grew upon me, and it was only with an almost superhuman effort that I broke myself free. Needless to say that I gave no assistance to my suffering friend, nor did I ever refer to the subject after her confession to me.

"Some two years later I heard of sexual practices between women as a frequent habit in certain quarters. I again interested myself in masturbation, for I had been told something that led me to believe that there was much more for me to discover. Not knowing the most elementary physiology, I questioned some of my friends, and then commenced again. I restricted myself to relief from local congestion and irritation by calling forth the emission of mucus rather than by seeking pleasure. At the same time I sought to discover what manipulation of the clitoris would lead to. The habit grew upon me with startling rapidity, and I became more or less its slave, but I suffered from no very great ill effects until I started in search of more discoveries. I found that I was a complete ignoramus as to the formation of a woman's body, and by experiments upon myself sought to discover the vagina. I continued my operations until I obtained an entrance. I think the rough handling of myself during this final stage disturbed my nervous system, and caused me considerable pain and exhaustion at the back of my

head, the spinal column, the back of my eyes, and a general feeling of languor, etc.

"I could not bear to be the slave of a habit, and after much suffering and efforts, which only led to falls to lower depths of conscious failure, my better self rebelled, until by a great effort and much prayer I kept myself pure for a whole week. This partial recovery gave me hope, but then I again fell a victim to the habit, much to my chagrin, and became hopeless of ever retracing my steps toward my ideal of virtue. For some days I lost energy, spirit, and hope; my nervous system appeared to be ruined, but I did not really despair of victory in the end. I thought of all the drunkards chained by their intemperate habits, of inveterate smokers who could not exist without tobacco, and of all the various methods by which men were slaves, and the longing to be freed of what had, in my case, proved to be a painful and unnecessary habit increased daily until, after one night when I struggled with myself for hours, I believed I had finally succeeded.

"At times when I reached a high degree of sexual excitement I felt that I was at least one step removed from those of morbid and repressed sex, who had not the slightest suspicion of the latent joys of womanhood within them. For a little while the habit took the shape of an exalted passion, but I rapidly tired it out by rough, thoughtless, and too impatient handling. Revulsion set in with the pain of an exhausted and badly used nervous system, and finding myself the slave of a passion I determined to endeavor to be its master.

"In conclusion, I should say that masturbation has proved itself to be to me one of the blind turnings of my life's history from which I have gained much valuable experience."

The practice was, however, by no means thus dismissed. Some time later the subject writes: "I have again restarted masturbation for the relief of localized feelings. One morning I was engaged reading a very heavy volume which, for convenience sake, I held in my lap, leaning back on my chair. I had become deep in my study for an hour or so when I became aware of certain feelings roused by the weight of the book. Being tempted to see what would happen by such conduct, I shifted so that the edge of the volume came in closer contact. The pleasurable feelings increased, so I gave myself up to my emotions for some thirty minutes.

"Notwithstanding the intense pleasure I enjoyed for so long a period, I maintain that it is wiser to refrain, and, although I admit in the same breath that by gentle treatment such pleasure may be harmless to the general health, it does lead to a desire for solitude which is not conducive to a happy frame of mind. There is an accompanying reticence of speech concerning the pleasure, which therefore appears to be unnatural, like the eating of stolen fruit. After such an event one seems

to require to fly to the woods and to listen to the song of the birds so as to shake off after-effects."

In a letter dated some months later she writes: "I think I have risen above the masturbation habit." It is premature to say whether this belief is justified. In the same letter the writer remarks: "If I had consciously abnormal or unsatisfied appetites I would satisfy them in the easiest and least harmful way."

I am indebted to a correspondent, who has himself made valuable contributions to our knowledge of the phenomena of sex, for the following remarks: "I have known cases of masturbation among virgins, wives, and women living apart from their husbands or separated from lovers. Miss A., who has frankly responded to my request for information, and furnished me with several facts, is a very intellectual woman, a close observer, and a confident of her sex. She confesses that the habit developed in her own case spontaneously about the period of puberty. Many women have spoken to her upon masturbation, and she believes that the habit is more common among adults of her sex than people usually suppose. A married acquaintance of Miss A. told her that she suffered from the deprivation of intercourse during the absence of her husband, and that a friend, another wife, suggested masturbation with an oiled banana, stating that she employed that means when her husband was away from home for any length of time; she knew several women, married and single, who used the same method of satisfaction. Miss A. states that many women prefer digital masturbation, performed upon them by the husband, to the normal method of excitation."

There is some interest in briefly reviewing the remarkable transformations in the attitude toward masturbation from Greek times down to our own day. The Greeks, as also the Romans, treated masturbation with little or no opprobrium. They contemplated it with almost absolute indifference, sometimes even with approval, for Plutarch tells us that Diogenes—described by Zeller, the historian of Greek philosophy, as "the most typical figure of ancient Greece"—was praised by Chrysippus, the famous philosopher, for masturbating in the market-place. Aretæus, without alluding to masturbation, dwells on the tonic effects of retaining the semen; but, on the other hand, Galen regarded the retention of semen as injurious, and advocated its frequent expulsion, a point of view which tended to justify masturbation. In classical days, doubtless, masturbation and all other forms of the auto-erotic impulse were comparatively rare.

So much scope was allowed in early adult age for homosexual and later for heterosexual relationships that any excessive or morbid development of solitary self-indulgence could seldom occur. Hence, probably, the serene indifference with which the ancients generally viewed masturbation. The case was altered when Christian ideals became prominent. Christian morality strongly proscribed sexual relationships except under certain specified conditions. It is true that Christianity discouraged all sexual manifestations, and that therefore its ban fell equally on masturbation, but obviously masturbation lay at the weakest line of defence against the assaults of the flesh; it was there that resistance would most readily yield. Christianity thus probably led to a considerable increase of masturbation. The attention which the theologians devoted to its manifestations clearly bears witness to their magnitude. It is noteworthy that Mohammedan theologians regarded masturbation as a Christian vice. In Islam both doctrine and practice tended to encourage sexual relationships, and not much attention was paid to masturbation, nor even any severe reprobation directed against it. Omer Haleby remarks that certain theologians of Islam are inclined to consider the practice of masturbation in vogue among Christians as allowable to devout Mussulmans when alone on a journey; he himself regards this as a practice good neither for soul nor body (seminal emissions during sleep providing all necessary relief); should, however, a Mussulman fall into this error, God is merciful![1]

In Migne's "Dictionnaire de Theologie Morale," article on "Pollution," which appears to be founded chiefly on Mgr. Gousset, we are told, quoting from Gousset, that "*pollutio seu mollities est voluntaria seminis humani effusio extra congressum cum alio.*" He adds that, to be a sin, it must be voluntary. If it occurs sleeping (or waking when not directly or indirectly voluntary) it cannot be sin. According to St. Alphonse de Ligouri, it is a graver sin than fornication, for it may involve sacrilege and adultery or sodomy. Even *distillatio*, if voluntary and with a notable commotion of the sexual impulses, is without doubt a mortal sin, "*quia notabilis commotio carnalis est pollutio inchoata.*" If, however, *distillatio* takes place without commotion or

[1] "El Ktab," Traduction de Paul de Régla, Paris, 1893.

pleasure, it is no sin, and, in the opinion of Sanchez and others, may be regarded simply as we regard sweat. It appears, indeed, that some authorities (like Holzmann, Sporer, and Elbel) consider that it may be permitted even when there is slight commotion of the flesh, but it must never be voluntarily procured. *Distillatio*, it may be added, is defined by Sanchez as "*humor quidam medius inter urinam et semen, qui ex membro pudendo procedit et qui semini est similis in colore et infectione carnisque commotione quæ aliquando ipsum comitatur; dissimilis autem eo quod non sit ita mordax ac grossus faciliusque fluat nec cum tanta carnis commotione et in minori copia, aliquando imperceptibiliter et sine carnis motu.*" It is thus evident that the old theologians clearly knew the difference between the secretion of the urethral glands under the influence of voluptuous excitement and the flow of semen, a distinction that is not understood even to-day by many nervous persons.

Under certain circumstances the Catholic theologians have permitted a married woman to masturbate. Thus, the Jesuit theologian, Gury,[1] asserts that the wife does not sin "*quæ se ipsam tactibus excitat ad seminationem statim post copulam in quâ vir solus seminavit.*" This teaching seems to have been misunderstood, since ethical and even medical writers have expended a certain amount of moral indignation on the Church whose theologians committed themselves to this statement. As a matter of fact, this qualified permission to masturbate merely rests on a false theory of procreation, which is clearly expressed in the word *seminatio*. It was believed that ejaculation in the woman is as necessary to fecundation as ejaculation in the man. As sexual intercourse without fecundation is not approved by the Catholic church, it thus became logically necessary to permit women to masturbate whenever the ejaculation of mucus had not occurred at or before coitus.

The belief that the emission of vaginal mucus under the influence of sexual excitement in women corresponded to spermatic emission has led to the practice of masturbation on hygienic grounds. Garnier ("Célibat," p. 255) mentions that Mesué, in the eighteenth century, invented a special pessary to take the place of the penis, and, as he stated, effect the due expulsion of the feminine sperm.

Protestantism, no doubt, in the main accepted the general Catholic tradition, but the tendency of Protestantism, in reaction against the minute inquisition of the earlier theologians, has always been to exercise a certain degree of what it regarded as wholesome indifference toward the less obvious manifestations of the flesh. Thus in Protestant countries masturbation seems to

[1] "Compend. Theolog. mor.," volume ii, p. 417.

have been almost ignored until Tissot, combining with his reputation as a physician the fanaticism of a devout believer, raised masturbation to the position of a colossal bogy which during a hundred years has not only had an unfortunate influence on medical opinion in these matters, but has been productive of incalculable harm to ignorant youth and tender consciences. During the past thirty years the efforts of many distinguished physicians—a few of whose opinions I have already quoted—have gradually dragged the bogy down from its pedestal, and now, as I have ventured to suggest, there is a tendency for the reaction to be excessive. There is even a tendency to-day to regard masturbation, with various qualifications, as normal. Tillier, for instance, remarks that since masturbation appears to be universal among the higher animals we are not entitled to regard it as a vice; it has only been so considered because studied exclusively by physicians under abnormal conditions.[1] Venturi, a well-known Italian alienist, regards masturbation as strictly physiological in youth; it is the normal and natural passage toward the generous and healthy passion of early manhood: it only becomes abnormal and vicious, he holds, when continued into adult life.

The appearance of masturbation of puberty, Venturi considers, "is a moment in the course of the development of the function of that organ which is the necessary instrument of sexuality." We find the first true manifestations of love appearing together with onanism, which is usually continued in a physiological way, though modified, into youth, and often through a great part of youth, according as this is precocious or retarded. Onanism in early adolescence begins with being a pleasurable act, having rudimentary roots in childhood, and finds its motive, not in distinct erotic images, but in the satisfaction of an organic need, unknown and undetermined, certainly of sexual character, but at this stage of consciousness simply seeming to be a source of physical pleasure having much analogy with that which arises from the tickling of a very sensitive cutaneous surface. In this onanism of early adolescence lies the germ of what will later be love: a pleasure of the body and of the spirit following the relief of a satisfied need." "As the youth develops, onanism becomes a sexual act comparable to coitus as a dream is comparable to reality, imagery forming in correspondence with the de-

[1] Tillier. "L'Instinct Sexuel," Paris, 1889, p. 270.

sires. In its fully developed form in adolescence," Venturi continues, "masturbation has an almost hallucinatory character; onanism at this period psychically approximates to the true sexual act and passes insensibly into it. If, however, continued on into adult age, it becomes morbid, passing into erotic fetichism; what in the inexperienced youth is the natural auxiliary and stimulus to imagination, in the degenerate onanist of adult age is a sign of arrested development. Thus onanism," the author concludes, "is not always a vice such as is fiercely combated by educators and moralists. It is the natural transition by which we reach the warm and generous love of youth, and in natural succession to this the tranquil, positive, matrimonial love of the mature man." (Silvio Venturi, "Le Degenerazioni Psico-sessuale," 1892, pp. 6-9.)

It may be questioned whether this view is acceptable even for the warm climate of the south of Europe, where the impulses of sexuality are undoubtedly precocious. It is certainly not in harmony with general experience and opinion in the north: this is well expressed in the following passage by a recent writer (E. Carpenter, *International Journal of Ethics*, July, 1899): "After all, purity (in the sense of continence) *is* of the first importance to boyhood. To prolong the period of continence in a boy's life is to prolong the period of *growth*. This is a simple physiological law, and a very obvious one; and, whatever other things may be said in favor of purity, it remains, perhaps, the most weighty. To introduce sensual and sexual habits—and one of the worst of them is self-abuse—at an early age is to arrest growth, both physical and mental. And what is even more, it means to arrest the capacity for affection. All experience shows that the early outlet toward sex cheapens and weakens affectional capacity."

I do not consider that we can decide the precise degree in which masturbation may fairly be called normal so long as we take masturbation by itself. We are thus, in conclusion, brought back to the point which I sought to emphasize at the outset: masturbation belongs to a group of auto-erotic phenomena. From one point of view it may be said that all auto-erotic phenomena are unnatural, since the natural aim of the sexual impulse is sexual conjunction, and all exercise of that impulse outside such conjunction is away from the end of Nature. But we do not live in a state of Nature which answers to such demands; all our life is "unnatural." And as soon as we begin to restrain the free play of sexual impulse toward sexual ends, at once auto-erotic phenomena inevitably spring up on every side. There is no end to them: it is impossible to say what finest elements in

art, in morals, in civilization generally, may not really be rooted in an auto-erotic impulse. Auto-erotic phenomena are inevitable. Our first duty is to investigate the nature and results of the manifestations among all classes of people. It is as a preliminary contribution to that inquiry that I present this "Study."[1] In the meanwhile it is our wisest course to recognize the inevitableness of such manifestations under the perpetual restraints of civilized life, and, while avoiding any attitude of excessive indulgence or indifference,[2] to avoid also any attitude of excessive horror, for our horror not only leads to the facts being effectually veiled from our sight, but itself serves to manufacture artificially a greater evil than that which we seek to combat.

The sexual impulse is not, as some have imagined, the sole root of the most massive human emotions, the most brilliant human aptitudes,—of sympathy, of art, of religion. In the complex human organism, where all the parts are so many-fibred and so closely interwoven, no great manifestation can be reduced to one single source. But it largely enters into and molds all of these emotions and aptitudes, and that, by virtue of its two most peculiar characteristics, it is, in the first place, the deepest and most volcanic of human impulses, and, in the second place,—unlike the only other human impulse with which it can be compared, the nutritive impulse,—it can, to a large extent, be transmuted into a new force capable of the strangest and most various uses. So that in the presence of all these manifestations we may assert that in a real sense, though subtly mingled with very diverse elements, auto-erotism everywhere plays its part. In the phenomena of auto-erotism, when we take a broad view of those phenomena, we are concerned, not with a form of insanity, not

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[1] With the question as to the best practical methods of obtaining completely satisfactory data regarding the prevalence of auto-erotic phenomena among the population generally, I do not here purpose to deal. A large and comprehensive scheme, as regards masturbation, has already been proposed by Hermann Cohn, but I do not know that any results have yet been attained by it.

[2] In the course of a recent and valuable work on the sexual instinct Féré states that my conclusion is that masturbation is normal and that "*l'indulgence s'impose*" ("L'Instinct Sexuel"). I had, however, already guarded myself against this misinterpretation.

necessarily with a form of depravity, but with the inevitable by-products of that mighty process on which the animal creation rests.

APPENDIXES.

APPENDIX A.

THE INFLUENCE OF MENSTRUATION ON THE POSITION OF WOMEN.

A QUESTION of historical psychology which, so far as I know, has never been fully investigated is the influence of menstruation in constituting the emotional atmosphere through which men habitually view women. I do not purpose to deal fully with this question, because it is one which may be more properly dealt with at length by the student of culture and by the historian, rather than from the stand-point of empirical psychology. But we here strike on a factor of such importance, such neglected importance, for the proper understanding of the sexual relations of men and women, that it cannot be wholly ignored.

It is the more necessary to consider briefly the influence of menstruation on the development of men's emotional attitude toward women, since many of the current and even scientific views of the matter are almost certainly erroneous. For instance, it is commonly stated or implied that, in the primitive and popular feeling, menstruation stands as the symbol of a fundamental weakness, impurity, and inferiority of women. That was certainly the view of many medieval monks, and it has been seriously maintained in recent years as a complete account of the matter. Thus, Crawley, in a somewhat elaborate study of this and allied questions, argues that "man predicates of woman both weakness and social inferiority." This attribution of inferiority to the female sex he takes to be a universal subjective conception probably due to the superior strength and stature of men. The main factor

in the constitution of the prohibitions and restrictions surrounding women, according to this author, is the belief that feminine properties, especially weakness, timidity, and inferiority, are transmitted by contact.[1] Crawley supports these views by copious facts, taken from travelers and anthropologists, concerning the attitude of savages. It may certainly be said that he proves conclusively that such ideas do actually form one widely prevalent element in the primitive attitude of men toward women. But it is not difficult to see that this explanation is far from accounting for the whole of the facts.

Among the negroes of Surinam a woman must live in solitude during the time of her period; it is dangerous for any man or woman to approach her, and when she sees a person coming near she cries out anxiously: "*Mi kay*! *Mi kay*!"—I am unclean! I am unclean! Throughout the world we find traces of the custom of which this is a typical example, and it is common to regard this custom as evidence of the degraded position occupied by primitive women. A serious fallacy underlies this belief, as may be clearly seen when we take a broad view, not only of the beliefs of primitive man regarding menstruation, but of his general beliefs regarding the supernatural forces of the world.

There is no fragment of folk-lore so familiar to the European world as that which connects woman with the serpent. It is, indeed, one of the foundation-stones of Christian theology.[2] Yet there is no fragment of folk-lore which remains more obscure. How has it happened that in all parts of the world the snake or his congeners, the lizard and the crocodile, have been credited with some design, sinister or erotic, on women?

Of the wide prevalence of the belief there can be no doubt.

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[1] A. E. Crawley, "Sexual Taboo," Journal of the Anthropological Institute, 1894-95.

[2] Robertson Smith points out that since snakes are the last noxious animals which man is able to exterminate they are the last to be associated with demons. They were ultimately the only animals directly and constantly associated with the Arabian *jinn*, or demon, and the serpent of Eden was a demon, and not a temporary disguise of Satan ("Religion of Semites," pp. 129 and 442). Perhaps it was in part because the snake was thus the last embodiment of demonic power that women were associated with it, women being always connected with the most ancient religious beliefs.

Among the Port Lincoln tribe of South Australia a lizard is said to have divided man from woman.[1] Among the Chiriguanos of Bolivia, on the appearance of menstruation, old women ran about with sticks to hunt the snake that had wounded the girl. Frazer, who quotes this example from the "*Lettres édifiantes et curieuses*," also refers to a modern Greek folk-tale, according to which a princess at puberty must not let the sun shine upon her, or she would be turned into a lizard.[2] In some parts of Brazil at the onset of puberty a girl must not go into the woods for fear of the amorous attacks of snakes, and so it is also among the Macusi Indians of British Guiana, according to Schomburgk. Among the Basutos of South Africa the young girls must dance around the clay image of a snake. In Polynesian mythology the lizard is a very sacred animal, and legends represent women as often giving birth to lizards.[3] In the Berlin Museum für Volkerkunde there is a carved wooden figure from New Guinea of a woman into whose vulva a crocodile is inserting his snout, while the same museum contains another figure of a snake-like crocodile crawling out of a woman's vulva, and a third figure shows a small round snake with a small head, and closely resembling a penis, at the mouth of the vagina. All these figures are reproduced by Ploss and Bartels. Even in modern Europe the same ideas prevail. In Portugal, according to Reys, it is believed that during menstruation women are liable to be bitten by lizards, and to guard against this risk they wear drawers during the period. In Germany, again, it was believed, up to the eighteenth century at least, that the hair of a menstruating woman, if buried, would turn into a snake. It may be added that in various parts of the world virgin priestesses are dedicated to a snake-god and are married to the god.[4] At Rome, it is interesting to note, the

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[1] In the northern territory of the same colony menstruation is said to be due to a bandicoot scratching the vagina and causing blood to flow (Journal of the Anthropological Institute, p. 177, November, 1894).

[2] Frazer, "Golden Bough," vol. ii. p. 231.

[3] Meyners d'Estrez, "Etude ethnographique sur le lézard chez les peuples malais et polynésiens," L'Anthropologie, 1892; see also, as regards the lizard in Samoan folk-lore, Globus, vol. lxxiv. No. 16.

[4] Boudin ("Etude Anthropologique: Culte du Serpent," Paris, 1864, pp. 66-70) brings forward examples of this aspect of snake-worship.

serpent was the symbol of fecundation, and as such often figures at Pompeii as the *genius patrisfamilias*, the generative power of the family.[1] In Rabbinical tradition, also, the serpent is the symbol of sexual desire.

There can be no doubt that—as Ploss and Bartels, from whom some of these examples have been taken, point out—in widely different parts of the world menstruation is believed to have been originally caused by a snake, and that this conception is frequently associated with an erotic and mystic idea. How the connection arose Ploss and Bartels are unable to say. It can only be suggested that the shape and appearance of the snake,[2] as well as its venomous nature, may have contributed to the mystery everywhere associated with the snake—a mystery itself fortified by the association with women—to build up this world-wide belief regarding the origin of menstruation.

This primitive theory of the origin of menstruation probably brings before us in its earliest shape the special and intimate bond which has ever been held to connect women, by virtue of the menstrual process, with the natural or supernatural powers of the world. Everywhere menstruating women are supposed to be possessed by spirits and charged with mysterious forces. It is at this point that a serious misconception, due to ignorance of primitive religious ideas, has constantly intruded. It is stated that the menstruating woman is "unclean" and possessed by an evil spirit. As a matter of fact, however, the savage rarely discriminates between bad and good spirits. Every spirit may have either a beneficial or malignant influence. An interesting instance of this is given in Colenso's "Maori Lexicon." The Maoris call their gods *Atuas*, and *Atua* is consequently the word used by the missionaries to designate the Christian God. But the meaning of the word seems to be primarily something exceedingly great and terrible, and the Maori gods and demons, though worshiped, were also often hated and even threatened, by their

[1] Attilio de Marchi, "Il Culto privato di Roma," p. 74.

[2] It is noteworthy that one of the names for the penis used by the Swahili women of German East Africa, in a kind of private language of their own, is "the snake" (Zache, Zeitschrift für Ethnologie, p. 73, 1899).

worshipers. Personified disease, pain, and death were all *atuas*, as also were all foods that must be avoided, everything monstrous, uncanny, or unlucky; and, as another authority on the Maoris (Tregear) tells us, the menstrual cloths of the women were very dangerous and unlucky. Thus, a woman must not be regarded as reduced by the process of menstruation to a state of degradation and impurity, as an instrument in the hands of evil powers, but merely as lifted into the region which is inhabited by all the supernatural powers of the world.

The importance of recognizing the special sense in which the word "unclean" is used in this connection was clearly pointed out by Robertson Smith in the case of the Semites. "The Hebrew word *tame* (unclean)," he remarked, "is not the ordinary word for things physically foul; it is a ritual term, and corresponds exactly to the idea of *taboo*. The ideas 'unclean' and 'holy' seem to us to stand in polar opposition to one another, but it was not so with the Semites. Among the later Jews the Holy Books 'defiled the hands' of the reader as contact with an impure thing did; among Lucian's Syrians the dove was so holy that he who touched it was unclean for a day; and the *taboo* attaching to the swine was explained by some, and beyond question correctly explained, in the same way. Among the heathen Semites, therefore, unclean animals, which it was pollution to eat, were simply holy animals."[1] Robertson Smith here made no reference to menstruation, but he exactly described the primitive attitude toward menstruation. Wellhausen, however, dealing with the early Arabians, expressly mentions that in pre-Islamic days, "clean" and "unclean" were used solely with reference to women in and out of the menstrual state. At a later date Frazer developed this aspect of the conception of taboo, and showed how it occurs among savage races generally. He pointed out that the concep-

[1] W. R. Smith. "Kinship and Marriage in Early Arabia." 1885. p. 307. The point is elaborated in the same author's "Religion of Semites," second edition, appendix on "Holiness, Uncleanness, and Taboo." pp. 446-54. See also Wellhausen, "Reste Arabischen Heidentums," second edition, pp. 167-77. Even to the early Arabians, Wellhausen remarks (p. 168), "clean" meant "profane and allowed," while "unclean" meant "sacred and forbidden." It was the same, as Jastrow remarks ("Religion of Babylonia," p. 662), among the Babylonian Semites.

tions of holiness and pollution not having yet been differentiated, women at childbirth and during menstruation are on the same level as divine kings, chiefs, and priests, and must observe the same rules of ceremonial purity. To seclude such persons from the rest of the world, so that the dreaded spiritual danger shall not reach them nor spread from them, is the object of the taboo, which Frazer compares to "an electrical insulator to preserve the spiritual force with which these persons are charged from suffering or inflicting harm by contact with the outer world." After describing the phenomena (especially the prohibition to touch the ground or see the sun) found among various races, Frazer concludes: "The object of secluding women at menstruation is to neutralize the dangerous influences which are supposed to emanate from them at such times. The general effect of these rules is to keep the girl suspended, so to say, between heaven and earth. Whether enveloped in her hammock and slung up to the roof, as in South America, or elevated above the ground in a dark and narrow cage, as in New Zealand, she may be considered to be out of the way of doing mischief, since, being shut off both from the earth and from the sun, she can poison neither of these great sources of life by her deadly contagion. The precautions thus taken to isolate or insulate the girl are dictated by regard for her own safety as well as for the safety of others. . . . In short, the girl is viewed as charged with a powerful force which, if not kept within bounds, may prove the destruction both of the girl herself and of all with whom she comes in contact. To repress this force within the limits necessary for the safety of all concerned is the object of the taboos in question. The same explanation applies to the observance of the same rules by divine kings and priests. The uncleanliness, as it is called, of girls at puberty and the sanctity of holy men do not, to the primitive mind, differ from each other. They are only different manifestations of the same supernatural energy, which, like energy in general, is in itself neither good nor bad, but becomes beneficent or malignant according to its application."[1]

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[1] J. G. Frazer, "The Golden Bough," Chapter IV.

More recently this view of the matter has been further extended by a French sociologist, Durkheim. Investigating the origins of the prohibition of incest (which Westermarck and others have been content to regard as an "instinct"), and arguing that it proceeds from the custom of exogamy (or marriage outside the clan), and that this rests on certain ideas about blood, which, again, are traceable to totemism,—a theory which we need not here discuss,—Durkheim is brought face to face with the group of conceptions that now concern us. He insists on the extreme ambiguity found in primitive culture concerning the notion of the divine, and the close connection between aversion and veneration, and points out that it is not only at puberty and each recurrence of the menstrual epoch that women have aroused these emotions, but also at childbirth. "A sentiment of religious horror," he continues, "which can reach such a degree of intensity, which can be called forth by so many circumstances, and reappears regularly every month to last for a week at least, cannot fail to extend its influence beyond the periods to which it was originally confined, and to affect the whole course of life. A being who must be secluded or avoided for weeks, months, or years preserves something of the characteristics to which the isolation was due, even outside those special periods. And, in fact, in these communities, the separation of the sexes is not merely intermittent; it has become chronic. The two elements of the population live separately." Durkheim proceeds to show that the origin of the occult powers attributed to the feminine organism is to be found in primitive ideas concerning blood. It is not only menstrual blood; any kind of blood is the object of similar feelings among savage and barbarous peoples. All sorts of precautions must be observed with regard to blood; in it resides a divine principle, or, as Romans, Jews, and Arabs believed, life itself. The prohibition to drink wine, the blood of the grape, found among some peoples, is traced to its resemblance to blood, and to its sacrificial employment (as among the ancient Arabians and still in the Christian sacrament) as a substitute for drinking blood. Throughout, blood is generally taboo, and it taboos everything that comes in contact with it. Now woman is chronically

"the theatre of bloody manifestations," and therefore she tends to become chronically taboo for the other members of the community. "A more or less conscious anxiety, a certain religious fear, cannot fail to enter into all the relations of her companions with her, and that is why all such relations are reduced to a minimum. Relations of a sexual character are specially excluded. In the first place, such relations are so intimate that they are incompatible with the sort of repulsion which the sexes must experience for each other; the barrier between them does not permit of such a close union. In the second place, the organs of the body here specially concerned are precisely the source of the dreaded manifestations. Thus it is natural that the feelings of aversion inspired by women attain their greatest intensity at this point. Thus it is, also, that of all parts of the feminine organization it is this region which is most severely shut out from commerce." So that, while the primitive emotion is mainly one of veneration, and is allied to that experienced for kings and priests, there is an element of fear in such veneration, and what men fear is to some extent odious to them.[1]

The justice of this view is evident when we review the whole group of influences which the menstruating woman is supposed to exert. She by no means acts only by paralyzing social activities and destroying the powers of life, by causing flowers to fade, fruit to fall from the trees, grains to lose their germinative power, and grafts to die. She is not accurately summed up in the old lines:—

> "Oh! menstruating woman, thou'rt a fiend
> From whom all nature should be closely screened."

Her powers are also beneficial. A woman at this time, as Ælian expressed it, is in regular communication with the starry bodies. Even at other times a woman when led naked around the orchard protected it from caterpillars, said Pliny, and this belief is acted upon (according to Bastanzi) even in the Italy of to-day. A garment stained with a virgin's menstrual blood, it

[1] E. Durkheim. "La Prohibition de l'Inceste et ses Origines." L'Année Sociologique. Première Année. 1898. esp. pp. 44, 46-47, 48, 50-57.

is said in Bavaria, is a certain safeguard against cuts and stabs. It will also extinguish fire. It was valuable as a love-philter; as a medicine its uses have been endless.[1] A sect of Valentinians even attributed sacramental virtues to menstrual blood, and partook of it as the blood of Christ.[2]

In our own time the slow disintegration of primitive animistic conceptions, aided certainly by the degraded conception of sexual phenomena taught by medieval monks—for whom woman was "*templum ædificatum super cloacam*"—has led to a disbelief in the more salutary influences of the menstruating woman. A fairly wide-spread faith in her pernicious influence alone survives. It may be traced even in practical and commercial—one might add, medical—quarters. In the great sugar-refineries in the North of France the regulations strictly forbid a woman to enter the factory while the sugar is boiling or cooling, the reason given being that, if a woman were to enter during her period, the sugar would blacken. For the same reason—to turn to the East—no woman is employed in the opium manufactory at Saigon, it being said that the opium would turn and become bitter, while Annamite women say that it is very difficult for them to prepare opium-pipes during the catamenial period.[3]

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[1] See Bourke, "Scatalogic Rites of all Nations," 1891, pp. 217-219, 250 and 254; Ploss and Max Bartels, "Das Weib," vol. i; H. L. Strack, "Der Blutaberglaube in der Menschheit," fourth edition, 1892, pp. 14-18. The last mentioned refers to the efficacy frequently attributed to menstrual blood in the middle ages in curing leprosy, and gives instances, occurring even in Germany to-day, of girls who have administered drops of menstrual blood in coffee to their sweethearts to make sure of retaining their affections.

[2] Pliny, who in Book VII, Chapter XIII, and Book XXVIII, Chapter XXIII, of his "Natural History," gives long lists of the various good and evil influences attributed to menstruation, writes in the latter place: "Hailstorms, they say; whirlwinds; and lightnings, even, will be scared away by a woman uncovering her body while her monthly courses are upon her. The same, too, with all other kinds of tempestuous weather; and out at sea a storm may be stilled by a woman uncovering her body merely, even though not menstruating at the time. At any other time, also, if a woman strips herself naked while she is menstruating, and walks round a field of wheat, the caterpillars, worms, beetles, and other vermin will fall from off the ears of corn."

[3] Dr. L. Laurent gives these instances, "De Quelques Phenomènes Mécaniques produits au moment de la Menstruation." Annales des Sciences Psychiques, September and October, 1897.

In 1878 a member of the British Medical Association wrote to the *British Medical Journal,* asking whether it was true that if a woman cured hams while menstruating the hams would be spoiled. He had known this to happen twice. Another medical man wrote that if so, what would happen to the patients of menstruating lady-doctors? A third wrote (in the *Journal* for April 27, 1878): "I thought the fact was so generally known to every housewife and cook that meat would spoil if salted at the menstrual period, that I am surprised to see so many letters on the subject in the *Journal.* If I am not mistaken, the question was mooted many years ago in the periodicals. It is undoubtedly the fact that meat will be tainted if cured by women at the catamenial period. Whatever the rationale may be, I can speak positively as to the fact."

It is probably the influence of these primitive ideas which has caused surgeons and gynecologists to dread operations during the catamenial period. Such, at all events, is the opinion of a distinguished authority, Dr. William Goodell, who wrote in 1891[1]: "I have learned to unlearn the teaching that women must not be subjected to a surgical operation during the monthly flux. Our forefathers, from time immemorial, have thought and taught that the presence of a menstruating woman would pollute solemn religious rites, would sour milk, spoil the fermentation in wine-vats, and much other mischief in a general way. Influenced by hoary tradition, modern physicians very generally postpone all operative treatment until the flow has ceased. But why this delay, if time is precious, and it enters as an important factor in the case? I have found menstruation to be the very best time to curette away fungous vegetations of the endometrium, for, being swollen then, by the afflux of blood, they are larger than at any other time, and can the more readily be removed. There is, indeed, no surer way of checking or of stopping a metrorrhagia than by curetting the womb during the very flow. While I do not select this period for the removal of ovarian cysts, or for

[1] As quoted in the Provincial Medical Journal, April, 1891.

other abdominal work, such as the extirpation of the ovaries, or a kidney, or breaking up intestinal adhesions, etc., yet I have not hesitated to perform these operations at such a time, and have never had reason to regret the course. The only operations that I should dislike to perform during menstruation would be those involving the womb itself."

It must be added to this that we still have to take into consideration not merely the surviving influence of ancient primitive beliefs, but the possible existence of actual nervous conditions during the menstrual period, producing what may be described as an abnormal nervous tension. In this way, we are doubtless concerned with a tissue of phenomena, inextricably woven, of folk-lore, autosuggestion, false observation, and real mental and nervous abnormality. Laurent has recently brought forward several cases which may illustrate this point. Thus, he speaks of two young girls of about 16 and 17, slightly neuropathic, but without definite hysterical symptoms, who, during the menstrual period feel themselves in a sort of electrical state, "with tingling and prickling sensations and feelings of attraction or repulsion at the contact of various objects." These girls believe their garments stick to their skin during the periods; it was only with difficulty that they could remove their slippers, though fitting easily; stockings had to be drawn off violently by another person, and they had given up changing their chemises during the period because the linen became so glued to the skin. An orchestral performer on the double-bass informed Laurent that whenever he left a tuned double-bass in his lodgings during his wife's period a string snapped; consequently he always removed his instrument at this time to a friend's house. He added that the same thing happened two years earlier with a mistress, a *café-concert* singer, who had, indeed, warned him beforehand. A harpist also informed Laurent that she had been obliged to give up her profession because during her period several strings of her harp, always the same strings, broke, especially when she was playing. A friend of Laurent's, an official in Cochin China, also told him that the strings of his violin often snapped during the menstrual periods of his Annamite mistress, who informed

him that Annamite women are familiar with this phenomenon, and are careful not to play on their instruments at this time. Two young ladies, both good violinists, also affirmed that ever since their first menstruation they had noted a tendency for the strings to snap at this period; one, a genuine artist, who often performed at charity concerts, systematically refused to play at these times, and was often embarrassed to find a pretext; the other, who admitted that she was nervous and irritable at such times, had given up playing on account of the trouble of changing the strings so frequently. Laurent also refers to the frequency with which women break things during the menstrual periods, and considers that this is not simply due to the awkwardness caused by nervous exhaustion or hysterical tremors, but that there is spontaneous breakage. Most usually it happens that a glass breaks when it is being dried with a cloth; needles also break with unusual facility at this time; clocks are stopped by merely placing the hand upon them.

I do not here attempt to estimate critically the validity of these alleged manifestations (some of which may certainly be explained by the unconscious muscular action which forms the basis of the phenomena of table-turning and thought-reading); such a task may best be undertaken through the minute study of isolated cases, and in this place I am merely concerned with the general influence of the menstrual state in affecting the social position of women, without reference to the analysis of the elements that go to make up that influence.

There is only one further point to which attention may be called. I allude to the way in which the more favorable side of the primitive conception of the menstruating woman—as priestess, sibyl, prophetess, an almost miraculous agent for good, an angel, the peculiar home of the divine element—was slowly and continuously carried on side by side with the less favorable view, through the beginnings of European civilization until our own times. The actual physical phenomena of menstruation, with the ideas of taboo associated with that state, sank into the background as culture evolved; but, on the other hand, the ideas of the angelic position and spiritual mission of women,

based on the primitive conception of the mystery associated with menstruation, still in some degree persisted.

It is evident, however, that, while, in one form or another, the more favorable aspect of the primitive view of women's magic function has never quite died out, the gradual decay and degradation of the primitive animistic view has, on the whole, involved a more degraded view of women's nature and position. Woman has always been the witch; she was so even in ancient Babylonia: but she has ceased to be the priestess. The early Teutons saw *"sanctum aliquid et providum"* in women who, for the medieval German preacher, were only *"bestiæ bipedales"*; and Schopenhauer and even Nietzsche have been more inclined to side with the preacher than with the half-naked philosophers of Tacitus's day. But both views alike are but the extremes of the same animistic conception; and the gradual evolution from one extreme of the magical doctrine to the other was inevitable. Thus it is that, in order to do justice to women, we have to sweep aside both aspects alike of the magic conception of womanhood, —that which absurdly exalts it, as well as that which absurdly degrades it,—remembering that both conceptions alike flow from the same source, and that each involves the other. This can only be accomplished by the clear and full discussion of the problems that centre around sex.

In an advanced civilization, as we see, these ideas having their ultimate basis on the old story of the serpent, and on a special and mysterious connection between the menstruating woman and the occult forces of magic, tend to die out. The separation of the sexes they involved becomes unnecessary. Living in greater community with men, women are seen to possess something, it may well be, but less than before, of the angel-devil of animistic theories. Menstruation is no longer a monstrific state requiring spiritual taboo, but a normal physiological process, not without its psychic influences on the woman herself and on those who live with her.

APPENDIX B.

SEXUAL PERIODICITY IN MEN.

By F. H. Perry-Coste, B.Sc. (Lond.).

In a recent *brochure* on the "Rhythm of the Pulse"[1] I showed *inter alia* that the readings of the pulse, in both man and woman, if arranged in lunar monthly periods, and averaged over several years, displayed a clear, and sometimes very strongly marked and symmetrical, rhythm. After pointing out that, in at any rate some cases, the male and female pulse-curves, both monthly and annual, seemed to be converse to one another, I added: "It is difficult to ignore the suggestion that in this tracing of the monthly rhythm of the pulse we have a history of the monthly function in women; and that, if so, the tracing of the male pulse may eventually afford us some help in discovering a corresponding monthly period in men: the existence of which has been suggested by Mr. Havelock Ellis and Professor Stanley Hall, among other writers. Certainly the mere fact that we can trace a clear monthly rhythm in man's pulse seems to point strongly to the existence of a monthly physiological period in him also."

Obviously, however, it is only indirectly and by inference that we can argue from a monthly rhythm of the pulse in men to a male sexual periodicity; but I am now able to adduce more direct evidence that will fairly demonstrate the existence of a sexual periodicity in men.

[1] First published in the University Magazine and Free Review of February, 1898, and since reprinted as a pamphlet, and published by the University Press, Watford, near London. A preliminary communication appeared in Nature, May 14, 1891.

We will start from the fact that celibacy is profoundly unnatural, and is, therefore, a physical—as well as an emotional and intellectual—abnormality. This being so, it is entirely in accord with all that we know of physiology that, when relief to the sexual secretory system by Nature's means is denied, and when, in consequence, a certain degree of tension or pressure has been attained, the system should relieve itself by a spontaneous discharge—such discharge being, of course, in the strict sense of the term, pathological, since it would never occur in any animal that followed the strict law of its physical being without any regard to other and higher laws of concern for its fellows.

Notoriously, that which we should have anticipated *a priori* actually occurs; for any unmarried man, who lives in strict chastity, periodically experiences, while sleeping, a loss of seminal fluid, such phenomena being popularly referred to as *wet dreams*.[1]

During some eight or ten years I have carefully recorded the occurrence of such discharges as I have experienced myself, and I have now accumulated sufficient data to justify an attempt to formulate some provisional conclusions.[2]

In order to render these observations as serviceable as may be to students of periodicity, I here repeat (at the request of Mr. Havelock Ellis) the statement which was subjoined, for the same reasons, to my "Rhythm of the Pulse." These observations upon myself were made between the ages of 20 and 33. I am about 5 feet 9 inches tall, broad-shouldered, and weigh about 10 stone 3 lbs. *net*—this weight being, I believe, about 7 lbs. below the normal for my height. Also I have green-brown eyes, very dark-brown hair, and a complexion that leads strangers frequently to

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[1] I may add, however, that in my own case these discharges are—so far as I can trust my waking consciousness—frequently, if not usually, dreamless; and that strictly sexual dreams are extremely rare, notwithstanding the possession of a strongly emotional temperament.

[2] If I can trust my memory, I first experienced this discharge when a few months under fifteen years of age, and, if so, within a few weeks of the time when I was, in an instant, suddenly struck with the thought that possibly the religion in which I had been educated might be false. It is curiously interesting that the advent of puberty should have been heralded by this intellectual crisis.

mistake me for a foreigner—this complexion being, perhaps, attributable to some Huguenot blood, although on the maternal side I am, so far as all information goes, pure English. I can stand a good deal of heat, enjoy relaxing climates, am at once upset by "bracing" sea-air, hate the cold, and sweat profusely after any exercise. To this it will suffice to add that my temperament is of a decidedly nervous and emotional type.

Before proceeding to remark upon the various rhythms that I have discovered, I will tabulate the data on which my conclusions are founded. The numbers of discharges recorded in the years in question are as follow:—

In 1886, 30. (Records commenced in April.)
In 1887, 40.
In 1888, 37.
In 1889, 18. (Pretty certainly not fully recorded.)
In 1890, 0. (No records kept this year.[1])
In 1891, 19. (Records recommenced in June.)
In 1892, 35.
In 1893, 40.
In 1894, 38.
In 1895, 36.
In 1896, 36.
In 1897, 35.
Average, 37. (Omitting 1886, 1889, and 1891.)

Thus I have complete records for eight years, and incomplete records for three more; and the remarkable concord between the respective annual numbers of observations in these eight years not only affords us intrinsic evidence of the accuracy of my records, but, also, at once proves that there is an undeniable regularity in the occurrence of these sexual discharges, and, therefore, gives us reason for expecting to find this regularity

[1] This unfortunate breach in the records was due to the fact that, failing to discover any regularity in, or law of, the occurrences of the discharges, I became discouraged and abandoned my records. In June, 1891, a re-examination of my pulse-records having led to my discovery of a lunar-monthly rhythm of the pulse, my interest in other physiological periodicities was reawakened, and I recommenced my records of these discharges.

rhythmical. Moreover, since it seemed reasonable to expect that there might be more than one rhythm, I have examined my data with a view to discovering (1) an annual, (2) a lunar-monthly, and (3) a weekly rhythm, and I now proceed to show that all three such rhythms exist.

The Annual Rhythm.

It is obvious that, in searching for an annual rhythm, we must ignore the records of the three incomplete years, but those of the remaining eight are graphically depicted upon Chart 7. The curves speak so plainly for themselves that any comment were almost superfluous, and the concord between the various curves, although, of course, not perfect, is far greater than the scantiness of the data would have justified us in expecting. The curves all agree in pointing to the existence of three well-defined maxima,—viz., in March, June, and September,—these being, therefore, the months in which the sexual instinct is most active; and the later curves show that there is also often a fourth maximum in January. In the earlier years the March and June maxima are more strikingly marked than the September one: but the uppermost curve shows that on the average of all eight years the September maximum is the highest, the June and January maxima occupying the second place, and the March maximum being the least strongly marked of all.

Now, remembering that, in calculating the curves of the annual rhythm of the pulse, I had found it necessary to average two months' records together, in order to bring out the full significance of the rhythm, I thought it well to try the effect upon these curves also of similarly averaging two months together. At first my results were fairly satisfactory; but, as my data increased year by year, I found that these curves were contradicting one another, and therefore concluded that I had selected unnatural periods for my averaging. My first attempted remedy was to arrange the months in the pairs December-January, February-March, etc., instead of in January-February, March-April, etc.; but with these pairs I fared no better than with the former. I then arranged the months in the triplets,

January-February-March, etc.: and the results are graphically recorded on Chart 8. Here, again, comment would be quite futile, but I need only point out that, *on the whole*, the sexual activity rises steadily during the first nine months in the year to its maximum in September, and then sinks rapidly and abruptly during the next three to its minimum in December.

The study of these curves suggests two interesting questions, to neither of which, however, do the data afford us an answer.

In the first place, are the alterations, in my case, of the maximum of the discharges from March and June in the earlier years to September in the later, and the interpolation of a new secondary maximum in January, correlated with the increase in age; or is the discrepancy due simply to a temporary irregularity that would have been equally averaged out had I recorded the discharges of 1881-89 instead of those from 1887 to 1897?

The second question is one of very great importance—socially, ethically, and physically. How often, in this climate, should a man have sexual connection with his wife in order to maintain himself in perfect physiological equilibrium? My results enable us to state definitely the minimum limits, and to reply that 37 embraces annually would be too few; but, unfortunately, they give us no clue to the maximum limit. It is obvious that the necessary frequency should be greater than 37 times annually,—possibly very considerably in excess thereof,—seeing that the spontaneous discharges, with which we are dealing, are due to overpressure, and occur only when the system, being denied natural relief, can no longer retain its secretions; and, therefore, it seems very reasonable to suggest that the frequency of natural relief should be some multiple of 37. I do not perceive, however, that the data in hand afford us any clue to this multiple, or enable us to suggest either 2, 3, 4, or 5 as the required multiple of 37. It is true that other observations upon myself have afforded me what I believe to be a fairly satisfactory and reliable answer so far as concerns myself; but these observations are of

such a nature that they cannot be discussed here, and I have no inclination to offer as a counsel to others an opinion which I am unable to justify by the citation of facts and statistics. Moreover, I am quite unable to opine whether, given 37 as the annual frequency of spontaneous discharges in a number of men, the multiple required for the frequency of natural relief should be the same in every case. For aught I know to the contrary, the physiological idiosyncrasies of men may be so varied that, given two men with an annual frequency of 37 spontaneous discharges, the desired multiple may be in one case X and in the other 2X.[1] Our data, however, do clearly denote that the frequency in the six or eight summer months should bear to the frequency of the six or four winter months the proportion of three or four to two. Moreover, since we are starting from a premise of a stated annual frequency, and since, during many months of pregnancy and suckling, a woman should be free from the embraces of her husband, it seems reasonable that the frequency during the remaining months should be, if possible, so far increased that the total annual frequency should remain undisturbed,[2] *always provided, however, that these safe-guards for the man's health can be secured without detriment to either the health or the inclinations of the wife.* It should never be forgotten, however, that, under all conditions, both man and wife should exercise prudence, both *selfward* and *otherward*, and that each should utterly refuse to gratify self by accepting a sacrifice, however willingly offered, that may be gravely prejudicial to the health of the other; for only experience can show whether, in any union, the receptivity of the woman be greater or less than, or equal to, the *physical* desire of the man. To those, of course, who regard marriage from the old-fashioned and grossly immoral stand-point of Melancthon and other theologians, and who consider a wife as the divinely

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[1] As a matter of fact, I take it that we may safely assert that no man who is content to be guided by his own instinctive cravings, and who neither suppresses these, on the one hand, nor endeavors to force himself, on the other hand, will be in any danger of erring by either excess or the contrary.

[2] If for any reason Neo-Malthusianism be practiced, the problem is, of course, reduced to its simplest terms.

ordained vehicle for the chartered intemperance of her husband, it will seem grotesque in the highest degree that a physiological inquirer should attempt to advise them how often to seek the embraces of their wives; but those who regard woman from the stand-point of a higher ethics, who abhor the notion that she should be only the vehicle for her husband's passions, and who demand that she shall be mistress of her own body, will not be ungrateful for any guidance that physiology can afford them. It will be seen presently, moreover, that the study of the weekly rhythm does afford us some less inexact clue to the desired solution.

One curious fact may be mentioned before we quit this interesting question. It is stated that "Solon required [of the husband] three *payments* per month. By the Misna a daily debt was imposed upon an idle vigorous young husband; *twice a week* on a citizen; once in thirty days on a camel-driver; once in six months on a seaman."[1] Now it is certainly striking that Solon's "three payments per month" exactly correspond with my records of 37 discharges annually. Had Solon similarly recorded a series of observations upon himself?

The Lunar-Monthly Rhythm.

We now come to that division of the inquiry which is of the greatest physiological interest, although of little social import. Is there a monthly period in man as well as in woman? My records indicate clearly that there is.

In searching for this monthly rhythm I have utilized the data, not only of the eight completely-recorded years, but also those of the three years of 1886, 1889, and 1891, for, although it would obviously have been inaccurate to utilize these incomplete records when calculating the yearly rhythm, there seems no objection to making use of them in the present section of the inquiry. It is hardly necessary to remark that the terms "first day of the month," "second day," "third day," etc., are to

[1] Selden's "Uxor Hebraica," as quoted in Gibbon's "Decline and Fall," vol. v, p. 52, of Bohn's edition.

be understood as denoting "new-moon day," "day after new moon," "third lunar day," and so on; but it should be explained that, since these discharges occur at night, I have adopted the astronomical, instead of the civil, day; so that a new moon occurring between noon yesterday and noon to-day is reckoned as occurring yesterday, and yesterday is regarded as the first lunar day: thus, a discharge occurring in the night between December 31st and January 1st is tabulated as occurring on December 31st, and, in the present discussion, is assigned to the lunar day comprised between noon of December 31st and noon of January 1st.

Since it is obvious that the number of discharges in any one year—averaging, as they do, only 1.25 per day—are far too few to yield a curve of any value, I have combined my data in two series. The dotted curve on Chart 9 is obtained by combining the results of the years 1886-92: two of these years are incompletely recorded, and there are no records for 1890; the total number of observations was 179. The broken curve is obtained by combining those of the years 1893-97, the total number of observations being 185. Even so, the data are far too scanty to yield a really characteristic curve; but the *continuous* curve, which sums up the results of the eleven years, is more reliable, and obviously more satisfactory.

If the two former curves be compared, it will be seen that, on the whole, they display a general concordance, such differences as exist being attributable chiefly to two facts: (1) that the second curve is more even throughout, neither maximum nor minimum being so strongly marked as in the first; and (2) that the main maximum occurs in the middle of the month instead of on the second lunar day, and the absence of the marked initial maximum alters the character of the first week or so of this curve. It is, however, scarcely fair to lay any great stress on the characters of curves obtained from such scanty data, and we will, therefore, pass to the continuous curve, the study of which will prove more valuable.[1]

[1] I may add that the curve yielded by 1896-97 is remarkably parallel with that yielded by the preceding nine years, but I have not thought it worth while to chart these two additional curves.

Now, even a cursory examination of this continuous curve will yield the following results:—

1. The discharges occur most frequently on the second lunar day.

2. The days of the next most frequent discharges are the 22d; the 13th; the 7th, 20th, and 26th; the 11th and 16th; so that, if we regard only the first six of these, we find that the discharges occur most frequently on the 2d, 7th, 13th, 20th, 22d, and 26th lunar days—*i.e.*, the discharges occur most frequently on days separated, on the average, by four-day intervals; but actually the period between the 20th and 22d days is that characterized by the most frequent discharges.

3. The days of minimum of discharge are the 1st, 5th, 15th, 18th, and 21st.

4. The curve is characterized by a continual see-sawing; so that every notable maximum is immediately followed by a notable minimum. Thus, the curve is of an entirely different character from that representing the monthly rhythm of the pulse,[1] and this is only what one might have expected, for, whereas the *mean* pulsations vary only very slightly from day to day,—thus giving rise to a gradually rising or sinking curve,—a discharge from the sexual system relieves the tension by exhausting the stored-up secretion, and is necessarily followed by some days of rest and inactivity. In the very nature of the case, therefore, a curve of this kind could not possibly be otherwise than most irregular if the discharges tended to occur most frequently upon definite days of the month; and thus the very irregularity of the curve affords us proof that there is a regular male periodicity, such that on certain days of the month there is greater probability of a spontaneous discharge than on any other days.

5. Gratifying, however, though this irregularity of the curve may be, yet it entails a corresponding disadvantage, for we are precluded thereby from readily perceiving the characteristics of the monthly rhythm as a whole. I thought that perhaps this

[1] See "Rhythm of the Pulse," Chart 4.

aspect of the rhythm might be rendered plainer if I calculated the data into two-day averages; and the result, as shown in Chart 10, is extremely satisfactory. Here we can at once perceive the wonderful and almost geometric, symmetry of the monthly rhythm; indeed, if the third maximum were one unit higher, if the first minimum were one unit lower, and if the lines joining the second minimum and third maximum, and the fourth maximum and fourth minimum, were straight instead of being slightly broken, then the curve would, in its chief features, be geometrically symmetrical; and this symmetry appears to me to afford a convincing proof of the representative accuracy of the curve. We see that the month is divided into five periods; that the maxima occur on the following pairs of days: the 19th-20th, 13th-14th, 25th-26th, 1st-2d, 7th-8th; and that the minima occur at the beginning, end, and exact middle of the month. There have been many idle superstitions as to the influence of the moon upon the earth and its inhabitants, and some beliefs that—once deemed equally idle—have now been reinstated in the regard of science; but it would certainly seem to be a very fascinating and very curious fact if the influence of the moon upon men should be such as to regulate the spontaneous discharges of their sexual system. Certainly the lovers of all ages would then have "builded better than they knew," when they reared altars of devotional verse to that chaste goddess Artemis.

The Weekly Rhythm.

We now come to the third branch of our inquiry, and have to ask whether there be any weekly rhythm of the sexual activity. *A priori* it might be answered that to expect any such weekly rhythm were absurd, seeing that our week—unlike the lunar month of the year—is a purely artificial and conventional period, while, on the other hand, it might be retorted that the existence of an *induced* weekly periodicity is quite conceivable, such periodicity being induced by the habitual difference between our occupation, or mode of life, on one or two days of the week and that on the remaining days. In such an inquiry, however, *a priori* argument is futile, as the question can be answered only

by an induction from observations, and the curves on Chart 11 (*A* and *B*) prove conclusively that there is a notable weekly rhythm. The existence of this weekly rhythm being granted, it would naturally be assumed that either the maximum or the minimum would regularly occur on Saturday or Sunday; but an examination of the curves discloses the unexpected result that the day of maximum discharge varies from year to year. Thus it is[1]

Sunday in 1888, 1892, 1896.
Tuesday in 1894.
Thursday in 1886, 1897.
Friday in 1887.
Saturday in 1893 and 1895.

Since, in Chart 11, the curves are drawn from Sunday to Sunday, it is obvious that the real symmetry of the curve is brought out in those years only which are characterized by a Sunday maximum; and, accordingly, in Chart 12 I have depicted the curves in a more suitable form.

Chart 12 *A* is obtained by combining the data of 1888, 1892, and 1896: the years of a Sunday maximum. Curve 12 *B* represents the results of 1894, the year of a Tuesday maximum—multiplied throughout by three in order to render the curve strictly comparable with the former. Curve 12 *C* represents 1886 and 1897—the years of a Thursday maximum—similarly multiplied by 1.5. In Curve 12 *D* we have the results of 1887—the year of a Friday maximum—again multiplied by three; and in Curve 12 *E* those of 1893 and 1895—the years of a Saturday maximum—multiplied by 1.5. Finally, Curve 12 *F* represents the combined results of all nine years plus (the latter half of) 1891, and this curve shows that, on the whole period, there is a very strongly marked Sunday maximum.

I hardly think that these curves call for much comment. In their general character they display a notable concord among

[1] As will be observed, I have omitted the results of the incompletely recorded years of 1889 and 1891. The apparent explanation of this curious oscillation will be given directly.

themselves, and it is significant that the most regular of the five curves are *A* and *E*, representing the combinations of three years and of two years, respectively, while the least regular is *B*, which is based upon the records of one year only. In every case we find that the maximum which opens the week is rapidly succeeded by a minimum, which is itself succeeded by a secondary maximum,—usually very secondary, although in 1894 it nearly equals the primary maximum,—followed again by a second minimum—usually nearly identical with the first minimum,—after which there is a rapid rise to the original maximum. The study of these curves fortunately amplifies the conclusion drawn from our study of the annual rhythm, and suggests that, in at least part of the year, the physiological condition of man requires sexual union at least twice a week.

As to Curve 12 *F*, its remarkable symmetry speaks for itself. The existence of two secondary maxima, however, has not the same significance as had that of our secondary maximum in the preceding curves, for one of these secondary maxima is due to the influence of the 1894 curve with its primary Tuesday maximum, and the other to the similar influence of Curve *C*, with its primary Thursday maximum. Similarly, the veiled third secondary maximum is due to the influence of Curve *E*. Probably, any student of curves will concede that, on a still larger average, the two secondary maxima of Curve *F* would be replaced by a single one on Wednesday or Thursday.

One more question remains for consideration in connection with this weekly rhythm. Is it possible to trace any connection between the weekly and yearly rhythms of such a character that the weekly day of maximum discharge should vary from month to month in the year; in other words, does the greater frequency of a Sunday discharge characterize one part of the year, that of a Tuesday another, and so on? In order to answer this question I have recalculated all my data, with results that are graphically represented in Chart 13. These curves prove that the Sunday maxima discharges occur in March-September, and the minima in June; that the Monday maxima discharges occur in September, Friday in July, and so on. Thus, there is a regular rhythm,

according to which the days of maximum discharge vary from one month of the year to another; and the existence of this final rhythm appears to me very remarkable. I would especially direct attention to the almost geometric symmetry of the Sunday curve, and to the only less complete symmetry of the Thursday and Friday curves. Certainly in these rhythms we have an ample field for farther study and speculation.

I have now completed my study of this fascinating inquiry: a study that is necessarily incomplete, since it is based upon records furnished by one individual only. The fact, however, that, even with so few observations, and notwithstanding the consequently-exaggerated disturbing influence of minor irregularities, such remarkable and unexpected symmetry is evidenced by these curves, only increases one's desire to have the opportunity of handling a series of observations sufficiently numerous to render the generalizations induced from them absolutely conclusive. I would again appeal[1] to heads of colleges to assist this inquiry by enlisting in its aid a band of students. If only one hundred students, living under similar conditions, could be induced to keep such records with scrupulous regularity for only twelve months, the results induced from such a series of observations would be more than ten times as valuable as those which have only been reached after ten years' observations on my part: and, if other centuries of students in foreign and colonial colleges—*e.g.*, in Italy, India, Australia, and America—could be similarly enlisted in this work, we should quickly obtain a series of results exhibiting the sexual needs and sexual peculiarities of the male human animal in various climates. Obviously, however, the records of any such students would be worse than useless unless their care and accuracy, on the one hand, and their habitual chastity, on the other, could be implicitly guaranteed. I am afraid that the necessity of imposing this latter condition will render it exceedingly difficult to obtain such results as are required

[1] See "Rhythm of the Pulse," p. 21.

APPENDIX C.

THE AUTO-EROTIC FACTOR IN RELIGION.

The intimate association between the emotions of love and religion is well known to all those who are habitually brought into close contact with the phenomena of the religious life. Love and religion are the two most volcanic emotions to which the human organism is liable, and it is not surprising that, when there is a disturbance in one of these spheres, the vibrations should readily extend to the other. Nor is it surprising that the two emotions should have a dynamic relation to each other, and that the auto-erotic impulse, being the more primitive and fundamental of the two impulses, should be able to pass its unexpended energy over to the religious emotion, there to find the expansion hitherto denied it, the love of the human becoming the love of the divine.

"I was not good enough for man.
And so am given to God."

Even when there is absolute physical suppression on the sexual side, it seems probable that thereby a greater intensity of spiritual fervor is caused. Many eminent thinkers seem to have been without sexual desire. And the one woman who has profoundly modified the destinies of Europe was destitute of the physical manifestations of womanhood: Joan of Arc never menstruated.

It is a noteworthy and significant fact that the age of love is also the age of conversion. Starbuck, for instance, in his very elaborate study of the psychology of conversion shows that the majority of conversions take place during the period of adolescence: that is, from the age of puberty to about 24 or 25.[1]

[1] Starbuck, "The Psychology of Religion," 1899. Also A. H. Daniels, "The New Life," American Journal of Psychology, vol. vi, 1893.

It would be easy to bring forward a long series of observations, from the most various points of view, to show the wide recognition of this close affinity between the sexual and the religious emotions. It is probable, as Hahn points out, that the connection between sexual suppression and religious rites, which we may trace at the very beginning of culture, was due to an instinctive impulse to heighten rather than abolish the sexual element. Early religious rites were largely sexual and orgiastic because they were largely an appeal to the generative forces of Nature to exhibit a beneficial productiveness. Among happily-married people, as Hahn remarks, the sexual emotions rapidly give place to the cares and anxieties involved in supporting children; but when the exercise of the sexual function is prevented by celibacy, or even by castration, the most complete form of celibacy, the sexual emotions may pass into the psychical sphere to take on a more pronounced shape.[1] The early Christians adopted the traditional Eastern association between religion and celibacy, and, as the writings of the Fathers amply show, they expended on sexual matters a concentrated fervor of thought rarely known to the Greek and Roman writers of the best period. As Christian theology developed, the minute inquisition into sexual things sometimes became almost an obsession. So far as I am aware, however (I cannot profess to have made any special investigation), it was not until the late middle ages that there is any clear recognition of the fact that between the religious emotions and the sexual emotions there is not only a superficial antagonism, but an underlying relationship. In the fourteenth century the wise old Knight of the Tower, Landry, tells his daughters that "no young woman, in love, can ever serve her God with that unfeignedness which she did aforetime. For I have heard it argued by many who, in their young days, had been in love that, when they were in the church, the condition and the pleasing melancholy in which they found themselves would infallibly set them brooding over all their tender love-sick longings and all

[1] Ed. Hahn, "Demeter und Baubo," 1896, pp. 50-51. Hahn is arguing for the religious origin of the plough, as a generative implement, drawn by a sacred and castrated animal, the ox.

their amorous passages, when they should have been attending to the service which was going on at the time. And such is the property of this mystery of love that it is ever at the moment when the priest is holding our Saviour upon the altar that the most enticing emotions come." And after narrating the history of two queens beyond the seas who indulged in amours even on Holy Thursday and Good Friday, at midnight in their oratories, when the lights were put out, he concludes: "Every woman in love is more liable to fall in church or at her devotion than at any other time." To come down to more recent times, in our own century the head-master of Clifton College, when discussing the sexual vices of boyhood, remarks that the boys whose temperament exposes them to these faults are usually far from destitute of religious feelings; that there is, and always has been, an undoubted co-existence of religion and animalism; that emotional appeals and revivals are far from rooting out carnal sin; and that in some places, as is well known, they seem actually to stimulate, even at the present day, to increased licentiousness."[1] A century ago, Casanova, looking at the matter from a very different stand-point, and after referring to "that mingling of mysticism and concupiscence which seethes in a Spanish heart," goes on to say: "I have everywhere observed that devout women are more sensitive than others to carnal pleasures."

The relationship of the sexual and the religious emotions—like so many other of the essential characters of human nature—is seen in its nakedest shape by the alienist. Esquirol referred to this relationship, and, many years ago, J. B. Friedreich, a German alienist of wide outlook and considerable insight, emphasized the connection between the sexual and the religious emotions, and brought forward illustrative cases.[2] Schröder Van der Kolk also remarked: "I venture to express my conviction that we should rarely err if, in a case of religious melancholy,

[1] Rev. J. M. Wilson, Journal of Education, 1881. At about the same period (1882) Spurgeon pointed out in one of his sermons that by a strange yet natural law excess of spirituality is next door to sensuality.

[2] "System der gerichtlichen Psychologie," second edition, 1842, pp. 266-68; and more at length in his "Allgemeine Diagnostik der psychischen Krankheiten, second edition, 1832, pp. 247-51.

we assumed the sexual apparatus to be implicated."[1] Régis, in France, lays it down that "there exists a close connection between mystic ideas and erotic ideas, and most often these two orders of conception are associated in insanity."[2] Berthier considered that erotic forms of insanity are those most frequently found in convents. Beavan Lewis points out how frequently religious exaltation occurs at puberty in women, and religious depression at the climacteric, the period of sexual decline.[3] "Religion is very closely allied to love," remarks Savage, "and the love of woman and the worship of God are constantly sources of trouble in unstable youth; it is very interesting to note the frequency with which these two deep feelings are associated."[4] "Closely connected with salacity, particularly in women," remarks Conolly Norman, when discussing mania (Tuke's "Dictionary of Psychological Medicine"), "is religious excitement. . . . Ecstasy, as we see in cases of acute mental disease, is probably always connected with sexual excitement, if not with sexual depravity. The same association is constantly seen in less extreme cases, and one of the commonest features in the conversation of an acutely maniacal woman is the intermingling of erotic and religious ideas." Ball, Brouardel, Morselli, C. H. Hughes,[5] to mention but a few names among many, have emphasized the same point.[6] Recently Vallon and Marie have published a valuable study of religious psychoses ("Des Psychoses Religieuses," *Archives de Neurologie*, 1897); one of their cases masturbated herself with a crucifix, believing that she thus sanctified the act: and they refer to a case of circular insanity, recorded by Morel, in which the subject believed herself to be, by turns, a nun and a prostitute. Krafft-Ebing deals briefly with the connection between holiness and the sexual emotion, and the special

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[1] "Handboek van de Pathologie en Therapie der Krankzinnigheid," 1863. P. 139 of English edition.

[2] "Manuel pratique de Médecine mentale," 1892, p. 31.

[3] "Text-book of Mental Diseases," p. 393.

[4] G. H. Savage, "Insanity," 1886.

[5] "Erotopathia," Alienist and Neurologist, October, 1893.

[6] Reference may be specially made to the interesting chapter on "Délire Religieux" in Icard's "La Femme pendant la période Menstruelle," pp. 211-234.

liability of the saints to sexual temptations; he thus states his own conclusions: "Religious and sexual emotional states at the height of their development exhibit a harmony in quantity and quality of excitement, and can thus in certain circumstances act vicariously. Both," he adds, "can be converted into cruelty under pathological conditions."[1]

After quoting these opinions it is, perhaps, not unnecessary to point out that, while sexual emotion constitutes the main reservoir of energy on which religion can draw, it is far from constituting either the whole content of religion or its root. Murisier, in an able study of the psychology of religious ecstasy, justly protests against too crude an explanation of its nature, though at the same time he admits that "the passion of the religious ecstatic lacks nothing of what goes to make up sexual love, not even jealousy."[2]

Sérieux, in his little work, "Recherches Cliniques sur les Anomalies de l'Instinct Sexuel" (Paris, 1888), valuable on account of its instructive cases, records in detail a case which so admirably illustrates this phase of auto-erotism on the borderland between ordinary erotic day-dreaming and religious mysticism, the phenomena for a time reaching an insane degree of intensity, that I reproduce it.

"Thérèse M., aged 24, shows physical stigmata of degeneration. The heredity is also bad: the father is a mason, a man of reckless and irregular conduct, neglecting his family: the mother was at one time in a lunatic asylum, and died of a disease of the stomach.

"The patient was brought up in an orphanage, and was a troublesome, volatile child; she treated household occupations with contempt, but was fond of study. Even at an early age her

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[1] "Psychopathia Sexualis," eighth edition, pp. 8 and 11.

[2] E. Murisier, "Le Sentiment Religieux dans l'Extase," Revue Philosophique, November, 1898. Starbuck, again ("Psychology of Religion," Chapter XXX), in a brief discussion of this point, concludes that "the sexual life, although it has left its impress on fully developed religion, seems to have originally given the psychic impulse which called out the latent possibilities of developments rather than to have furnished the raw material out of which religion was constructed."

lively imagination attracted attention, and the pleasure which she took in building castles in the air. From the age of seven to ten she masturbated. At her first communion she felt that Jesus would for ever be the one master of her heart. At thirteen, after the death of her mother, she seemed to see her, and to hear her say that she was watching over her child. Shortly afterward she was overwhelmed by a new grief, the death of a teacher for whom she cherished great affection on account of her pure character. On the following days she seemed to see and hear this teacher, and would not leave the house where the body lay. Tendencies to melancholy appeared; she would cry and be miserable without cause, compose sad verses, and long for death. Saddened by the funeral ceremonies, exhorted by nuns, fed on mystic revery, she passed from the orphanage to a convent.

"She devoted herself solely to the worship of Jesus; to be like Jesus, to bear her cross like Jesus, to desire death in order to be near Jesus—such were henceforth her constant preoccupations. The Virgin's name was rarely seen in her writings, God's name never. 'I wanted,' she said, 'to love Jesus more than any of the nuns I saw, and I even thought that he had a partiality for me.' She was also haunted by the idea of preserving her purity. She avoided frivolous conversation, and left the room when marriage was discussed, such a union being incompatible with a pure life; 'it was my fixed idea for two years to make my soul ever more pure in order to be agreeable to Him: the beloved is well pleased among the lilies.'

"Already, however, in a rudimentary form appeared contrary tendencies [strictly speaking they were not contrary, but related, tendencies]. Beneath the mystic passion which concealed it sexual desire was sometimes felt. 'It seemed to me that there was something in my soul that injured the purity I was seeking.' At sixteen she experienced emotions which she could not master, when thinking of a priest who, she said, loved her. In spite of all remorse she would have been willing to have relations with him. Notwithstanding these passing weaknesses, the idea of purity always possessed her. The nuns, however, were concerned about her exaltation. She was sent away from the

convent, became discouraged, and took a place as a servant, but her fervor continued. One Sunday, at high mass, she remarked that the men were all looking at her. During the sermon, the preacher said, as he seemed to look at her: 'It is from the eucharistic banquet that the Spouse receives fecundity' (an allusion to her own fecundity which, she said, became clear to her later). At night she was tormented by unaccountable lassitude.

"Her confessor inspires her with great affection; she sends him tender letters. She would be willing to have relations with him, even though she considers the desire a temptation of the devil.

"One day she meditated on the words of the Gospel: 'When a woman is in travail she is overcome by her pangs, but is full of joy when she has brought a child into the world.' Her confessor said to her: 'You must apply that to the religious life,' no doubt because he saw in her one who was predestined to that life. They were seeking to make her understand, she thought later, her relations to Jesus.

"Her religious practices become more fervent than ever; she communicates every day, and returns to the church in the evening; she believes that the preacher concerns himself with her.

"The ground was now prepared for the manifestation of hallucinations. 'One evening in May,' she writes, 'after being absorbed in thoughts of my confessor, and feeling discouraged, as I thought that Jesus, whom I loved so much, would have nothing to do with me, "Mother," I cried out, "what must I do to win your son?" My eyes were fixed on the sky, and I remained in a state of mad expectation. It was absurd. I to become the mother of the Word! My heart went on repeating: "Yes, he is coming; Jesus is coming!"' The psychic erethism, reverberating on the sensorial and sensory centres, led to genital, auditory, and visual hallucinations, which produced the sensation of sexual connection. 'For the first time I went to bed and was not alone. As soon as I felt that touch, I heard the words: "Fear not, it is I." I was lost in Him whom I loved. For many days I was cradled in a world of pleasure; I saw Him everywhere, overwhelming me with His chaste caresses.'"

"On the following day at mass she seemed to see Calvary before her. 'Jesus was naked and surrounded by a thousand voluptuous imaginations: His arms were loosened from the cross, and he said to me: "Come!" I longed to fly to Him with my body, but could not make up my mind to show myself naked. However, I was carried away by a force I could not control, I threw myself on my Saviour's neck, and felt that all was over between the world and me.'

"From that day, 'by sheer reasoning,' she has understood everything. Previously she thought that the religious life was a renunciation of the joys of marriage and enjoyment generally; now she understands its object. Jesus Christ desires that she should have relations with a priest: he is himself incarnated in priests: just as St. Joseph was the guardian of the Virgin, so are priests the guardians of nuns. She has been impregnated by Jesus, and this imaginary pregnancy preoccupies her in the highest degree.

"From this time she masturbated daily. She cannot even go to communion without experiencing voluptuous sensations.

"Her delusions having thus become systematized, nothing shakes her tenacity in seeking to carry them out: she attempts at all costs to have relations with her confessor, embraces him, throws herself at his knees, pursues him, and so becomes a cause of scandal.

"When brought to the asylum, there is intense sexual excitement, and she masturbates a dozen times a day, even when talking to the doctor. The sexual organs are normal, the vulva moist and red, the vagina is painful to touch: the contact of the finger causes erectile turgescence.

"She has had no rest, she says, since she has learned to love her Jesus. He desires her to have sexual relations with someone, and she cannot succeed: 'all my soul's strength is arrested by this constant endeavor.' Her new surroundings modify her behavior, and now it is the doctor whom she pursues with her obsessions.

"'I expected everything from the charity of the priests I have known; I have not deserved what I wanted from them.

But is not a doctor free to do everything for the good of the patients intrusted to him by Providence? Cannot a doctor thus devote himself? Since I have tasted the tree of life I am tormented by the desire to share it with a loving friend.' Then she falls in love with an employee, and makes the crudest advances to him, believing that she is thus executing the will of Jesus. 'Necessity makes laws,' she exclaims to him, 'the moments are pressing. I have been waiting too long.' She still speaks of her religious vocation which might be compromised by so long a delay. 'I do not want to get married.'

"Every day she writes letters in which the wildest passion is expressed in mystical and extravagant phrases, human love going hand in hand with love of Jesus. 'I feel Jesus so united to me that my exaltation begins again, and I am irresistibly impelled to renew my desires toward you.'

"Gradually a transformation took place: the love of God was effaced and earthly love became more intense than ever. 'Quitting the heights in which I wished to soar, I am coming so near to earth that I shall soon fix my desires there.' In a last letter Thérèse recognizes with terror the insanity to which the exaltation of her imagination had led her. 'Now I only believe in God and in suffering: I feel that it is necessary for me to get married.'"

Mariani[1] has very fully described a case of erotico-religious insanity (climacteric paranoia on an hysterical basis) in a married woman of 44. During the early stages of her disorder she inflicted all sorts of penances upon herself (fasting, constant prayer, drinking her own urine, cleaning dirty plates with her tongue, etc.). Finally she felt that by her penances she had obtained forgiveness of her sins, and then began a stage of joy and satisfaction during which she believed that she had entered into a state of the most intimate personal relationship with Jesus. She finally recovered. Mariani shows how closely this history corresponds with the histories of the saints, and that all the acts

[1] "Una Santa." Archivio di Psichiatria, vol. xix. pp. 438-47. 1898.

and emotions of this woman can be exactly paralleled in the lives of famous saints.[1]

The justice of these comparisons becomes manifest when we turn to the records that have been left by holy persons. A most instructive record from this point of view is the autobiography of Sœur Jeanne des Anges, superior of the Ursulines of Loudun in the seventeenth century. She was clever, beautiful, ambitious, fond of pleasure, still more of power. With this, as often happens, she was highly hysterical, and in the early years of her religious life was possessed by various demons of unchastity and blasphemy with whom for many years she was in constant struggle. She fell in love with a priest of Loudun, Grandier, a man whom she had never even seen, only knowing of him as a powerful and fascinating personality at whose feet all women fell, and she imagined that she and the other nuns of her convent were possessed through his influence. She was thus the cause of the trial and execution of Grandier, a famous case in the annals of witchcraft. In her autobiography Sœur Jeanne describes in detail how the demons assailed her at night, appearing in lascivious attitudes, making indecent proposals, raising the bedclothes, touching all parts of her body, imploring her to yield to them, and she tells how strong her temptation was to yield. On one night, for instance, she writes: "I seemed to feel someone's breath, and I heard a voice saying: 'The time for resistance has gone by, you must no longer rebel; by putting off your consent to what has been proposed you will be injured; you cannot persist in this resistance; God has subjected you to the demands of a nature which you must satisfy on occasions so urgent.' Then I felt impure impressions in my imagination and disordered movements in my body. I persisted in saying at the bottom of my heart that I would do nothing. I turned to God and asked Him for strength in this extraordinary struggle.

"Then there was a loud noise in my room, and I felt as if someone had approached me and put his hand into my bed and

[1] With regard to the sexual element in the worship of the Virgin, see "Ueber den Marienenltus," L. Fenerbach's "Sammtliche Werke," B. 1, 1846.

touched me; and having perceived this I rose, in a state of restlessness, which lasted for a long time afterward.

"Some days later, at midnight, I began to tremble all over my body as I lay in bed, and to experience much mental anxiety without knowing the cause. After this had lasted for some time I heard noises in various parts of my room; the sheet was twice pulled without entirely uncovering me; the oratory close to my bed was upset. I heard a voice on the left side, toward which I was lying. I was asked if I had thought over the advantageous offer that had been made to me. It was added: 'I have come to know your reply; I will keep my promise if you will give your consent; if, on the contrary, you refuse, you will be the most miserable girl in the world, and all sorts of mischances will happen to you.' I replied: 'If there were no God I would fear those threats; I am consecrated to Him.' It was replied to me: 'You will not get much help from God; He will abandon you.' I replied: 'God is my father; He will take care of me; I have resolved to be faithful to Him.' He said: 'I will give you three days to think over it.' I rose and went to the Holy Sacrament with an anxious mind.

"Having returned to my room, and being seated on a chair, it was drawn from under me so that I fell on the floor. Then the same things happened again. I heard a man's voice saying lascivious and pleasant things to seduce me; he pressed me to give him room in my bed; he tried to touch me in an indecent way; I resisted and prevented him, calling the nuns who were near my room; the window had been open, it was closed; I felt strong movements of love for a certain person, and improper desire for dishonorable things."

She writes again, at a later period: "These impurities and the fire of concupiscence which the evil spirit caused me to feel, beyond all that I can say, forced me to throw myself on to braziers of hot coal, where I would remain for half an hour at a time, in order to extinguish that other fire, so that half my body was quite burnt. At other times, in the depth of winter, I have sometimes passed part of the night entirely naked in the snow, or in tubs of icy water. I have besides often gone among thorns so that I

have been torn by them; at other times I have rolled in nettles, and I have passed whole nights defying my enemies to attack me, and assuring them that I was resolved to defend myself with the grace of God." With her confessor's permission, she also had an iron girdle made, with spikes, and wore this day and night for nearly six months until the spikes so entered her flesh that the girdle could only be removed with difficulty. By means of these austerities she succeeded in almost exorcising the demons of unchastity, and a little later, after a severe illness, of which she believed that she was miraculously cured by St. Joseph, she appeared before the world almost as a saint, herself possessing a miraculous power of healing; she traveled through France, bringing healing wherever she went; the king, the queen, and Cardinal Richelieu were at her feet, and so great became the fame of her holiness that her tomb was a shrine for pilgrims for more than a century after her death. It was not until late in life, and after her autobiography terminates, that sexual desire in Sœur Jeanne (though its sting seems never to have quite disappeared) became transformed into passionate love of Jesus, and it is only in her later letters that we catch glimpses of the complete transmutation. Thus, in one of her later letters we read: "I cried with ardor, 'Lord! join me to Thyself, transform Thyself into me!' It seemed to me that that lovable Spouse was reposing in my heart as on His throne. What makes me almost swoon with love and admiration is a certain pleasure which it seems to me that He takes when all my being flows into His, restoring to Him with respect and love all that He has given to me. Sometimes I have permission to speak to our Lord with more familiarity, calling Him my Love, interesting Him in all that I ask of Him, as well for myself as for others."

The lives of all the great saints and mystics, St. Theresa's especially, bear witness to operations similar to those so vividly described by Sœur Jeanne des Anges, though it is very rarely that any saint has so frankly presented the dynamic mechanism of the auto-erotic process. The indications they give us, however, are sufficiently clear. It is enough to refer to the special affection which the mystics have ever borne toward the Song of

Songs, and to note how the most earthly expressions of love in that poem enter as a perpetual refrain into their writings.[1]

The courage of the early Christian martyrs, it is abundantly evident, was in part supported by an exaltation which they frankly drew from the sexual impulse. Felicula, we are told in the acts of Achilles and Nereus,[2] preferred imprisonment, torture, and death to marriage or pagan sacrifices. When on the rack she was bidden to deny Christianity, she exclaimed: "*Ego non nego amatorem meum*!"—I will not deny my lover who for my sake has eaten gall and drunk vinegar, crowned with thorns, and fastened to the cross.

If finally we turn to the most popular devotional work that was ever written, "The Imitation of Christ," we shall find that the "love" there expressed is precisely and exactly the love that finds its motive power in the emotions aroused by a person of the other sex. (A very intellectual woman once remarked to me that the book seemed to her "a sort of religious aphrodisiac.") If we read, for instance, Book III, Chapter V, of this work ("De Mirabili affectu Divini amoris"), we shall find in the eloquence of this solitary monk in the Low Countries neither more nor less than the emotions of every human lover at their highest limit of exaltation. "Nothing is sweeter than love, nothing stronger, nothing higher, nothing broader, nothing pleasanter, nothing fuller nor better in heaven or in earth. He who loves, flies, runs, and rejoices; he is free and cannot be held. He gives all in exchange for all, and possesses all in all. He looks not at gifts, but turns to the giver above all good things. Love knows no measure, but is fervent beyond all measure. Love feels no burden, thinks nothing of labor, strives beyond its force, reckons not of impossibility, for it judges that all things are possible. Therefore it attempts all things, and therefore it effects much when he who is not a lover fails and falls. . . . My Love! thou all mine, and I all thine."

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[1] Thus, in St. Theresa's "Conceptos del Amor de Dios," the words "*Béseme con el beso de su boca*"—Let him kiss me with the kisses of his mouth—constantly recur.

[2] "Acta Sanctorum," May 12th.

There is a certain natural disinclination in many quarters to recognize any special connection between the sexual emotions and the religious emotions. But this attitude is not reasonable. A man who is swayed by religious emotions cannot be held responsible for the indirect emotional results of his condition; he can be held responsible for their control. Nothing is gained by refusing to face the possibility that such control may be necessary, and much is lost. There is certainly, as I have tried to indicate, good reason to think that the action and interaction between the spheres of sexual and religious emotion are very intimate. The obscure promptings of the organism at puberty frequently assume on the psychic side a wholly religious character: the activity of the religious emotions sometimes tends to pass over into the sexual region: the suppression of the sexual emotions often furnishes a powerful reservoir of energy to the religious emotions: occasionally the suppressed sexual emotions break through all obstacles.

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DIAGRAMS.

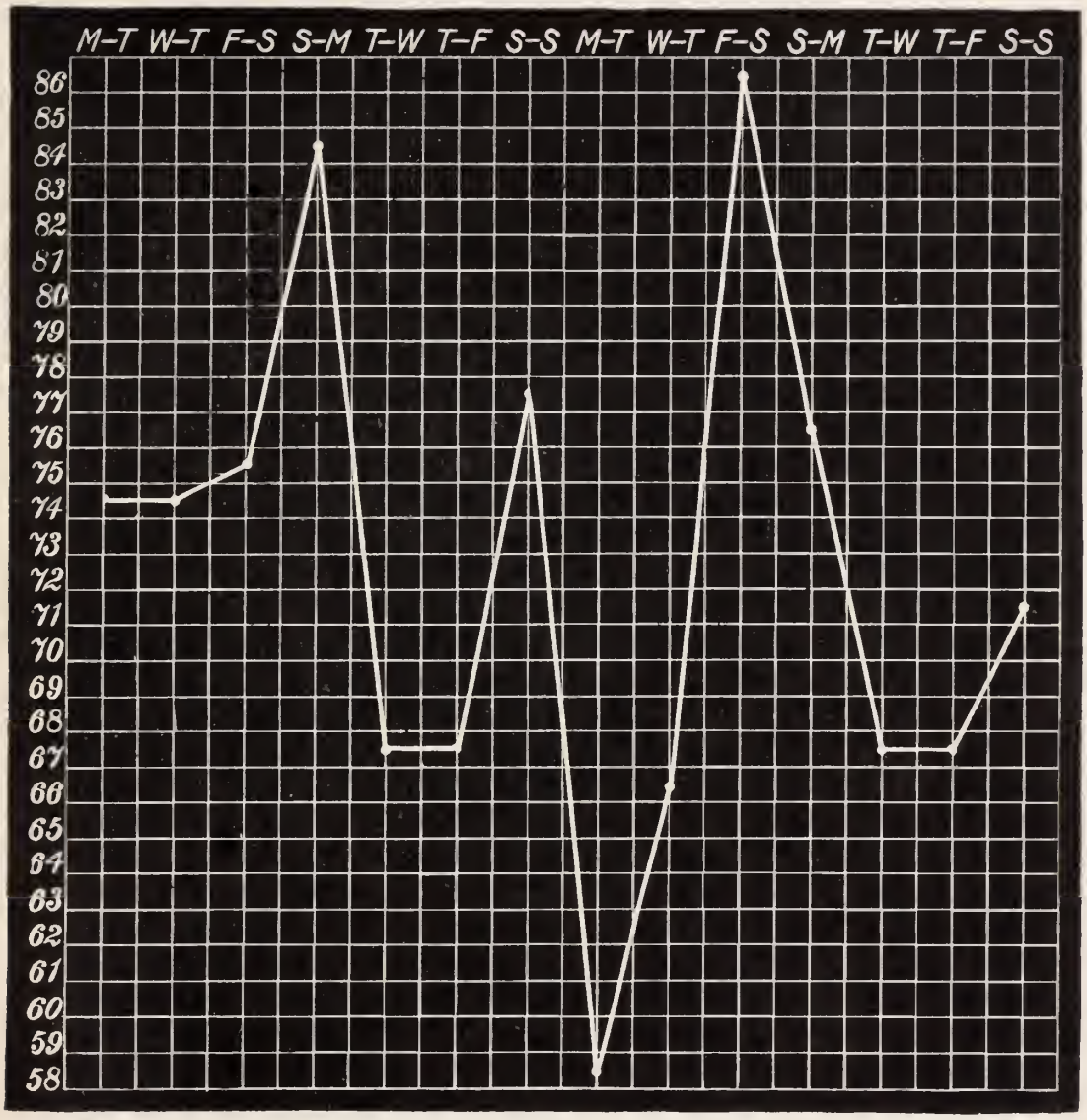

CHART I.—The Monthly Ecbolic Curve.

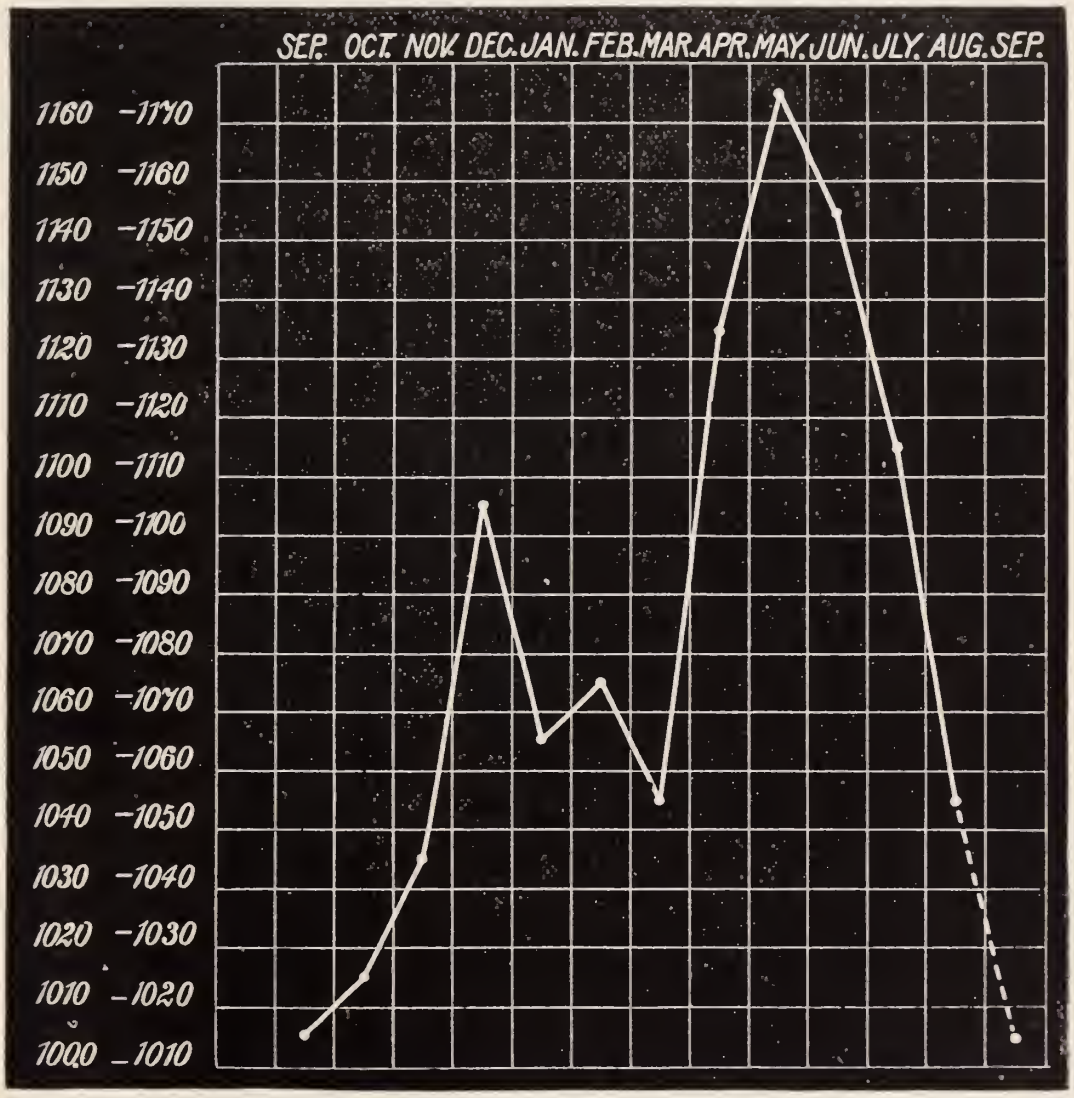

CHART II.—The Annual Curve of the Conception-rate in Europe.

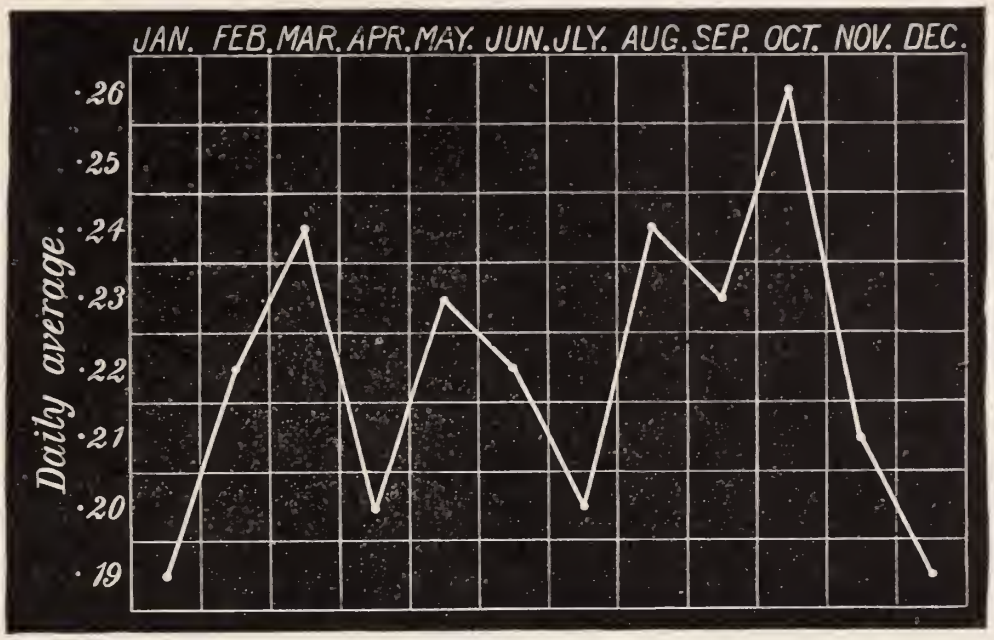

CHART III.—The Annual Ecbolic Curve.

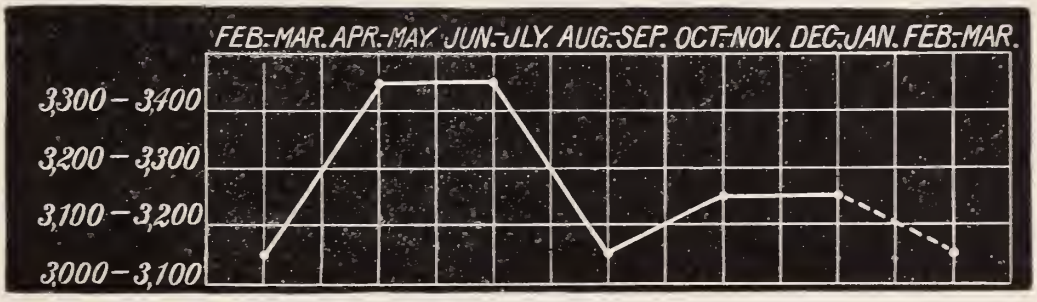

CHART IV.—Curve of the Annual Incidence of Insanity in London.

CHART V.—Curve of the Annual Incidence of General Paralysis in Paris (Garnier).

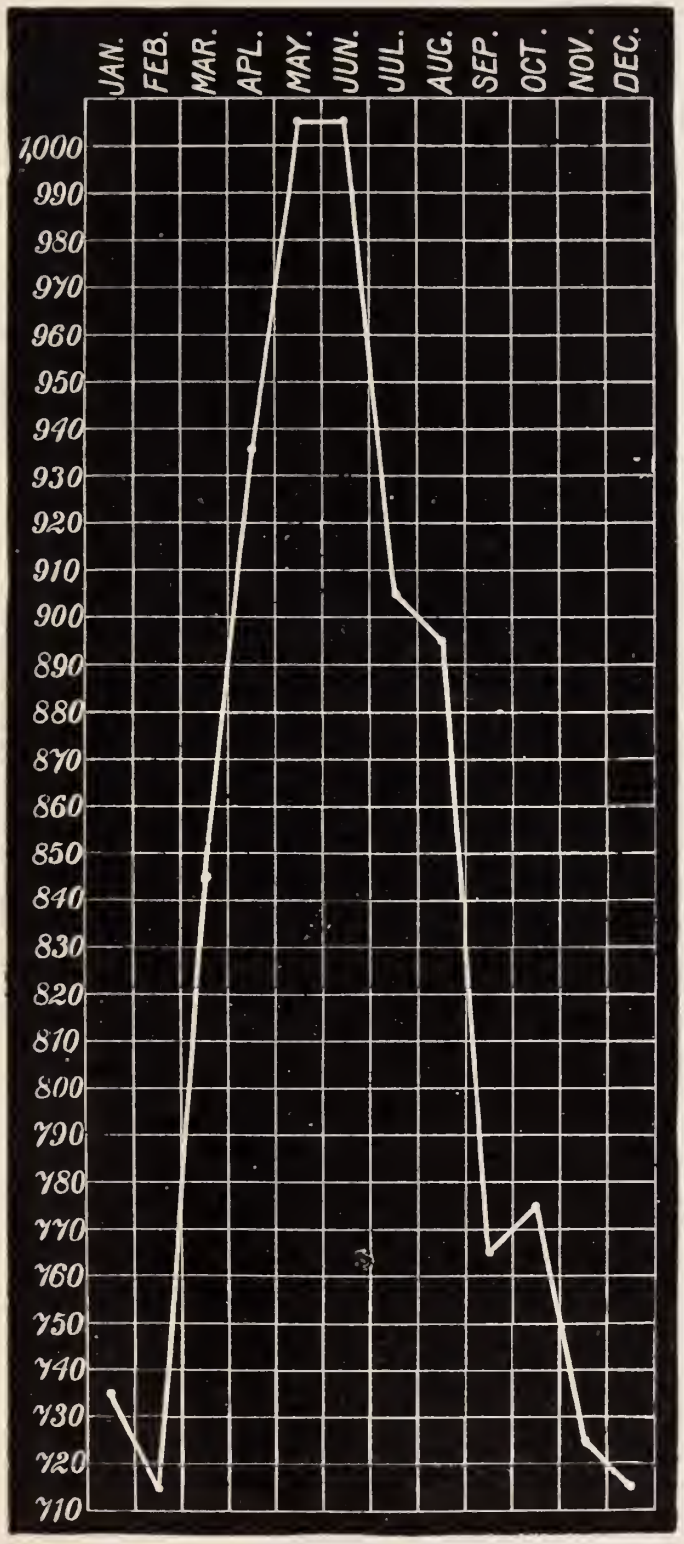

CHART VI.—The Suicide-rate in London.

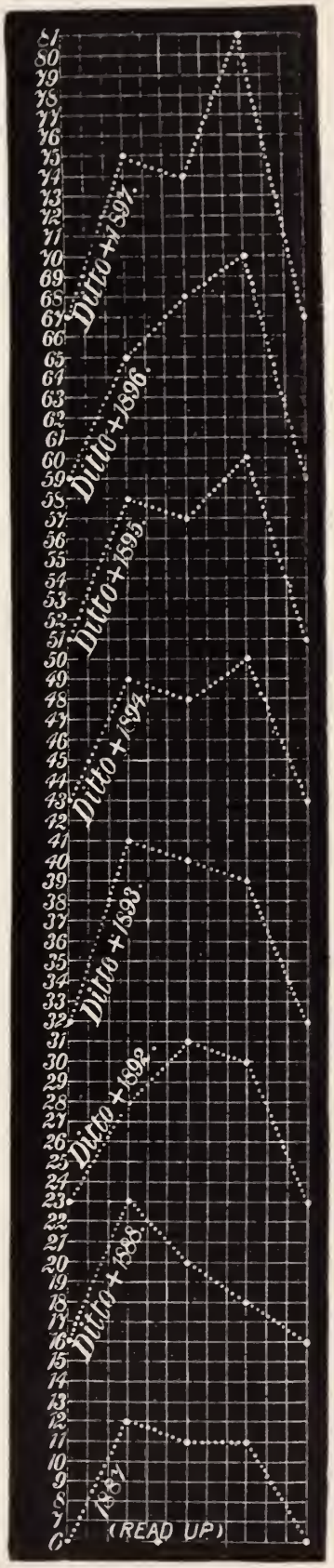

CHART VII.

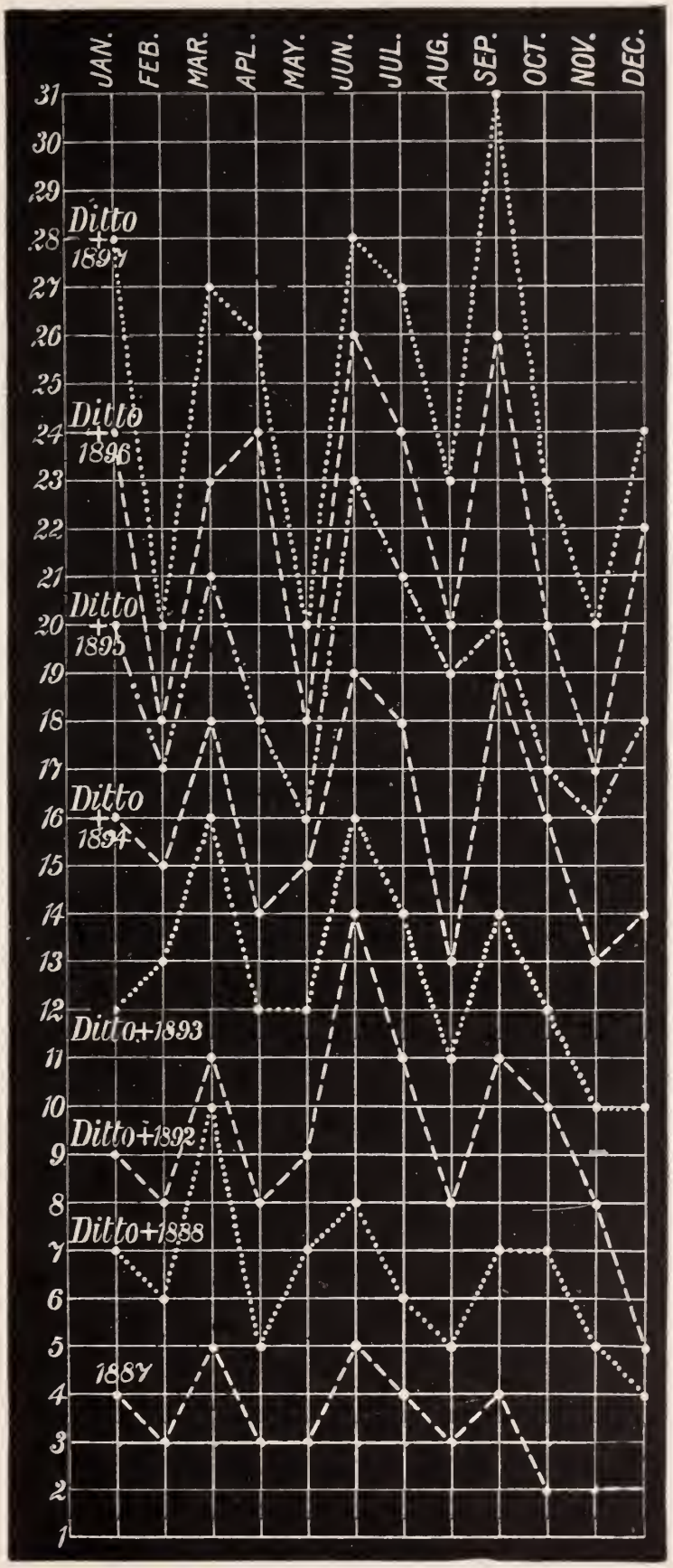
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CHART VIII.

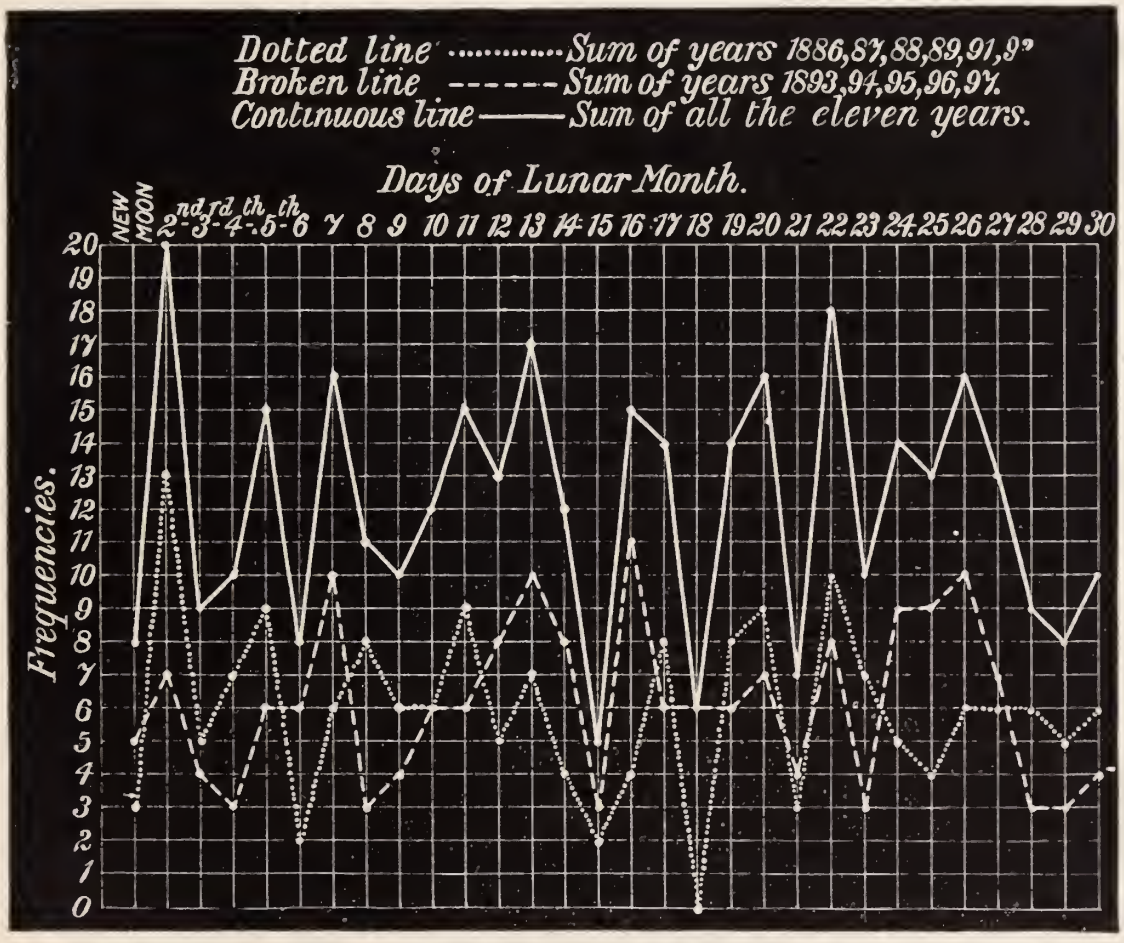

CHART IX.—Lunar-monthly Rhythm of Male Sexual Period.

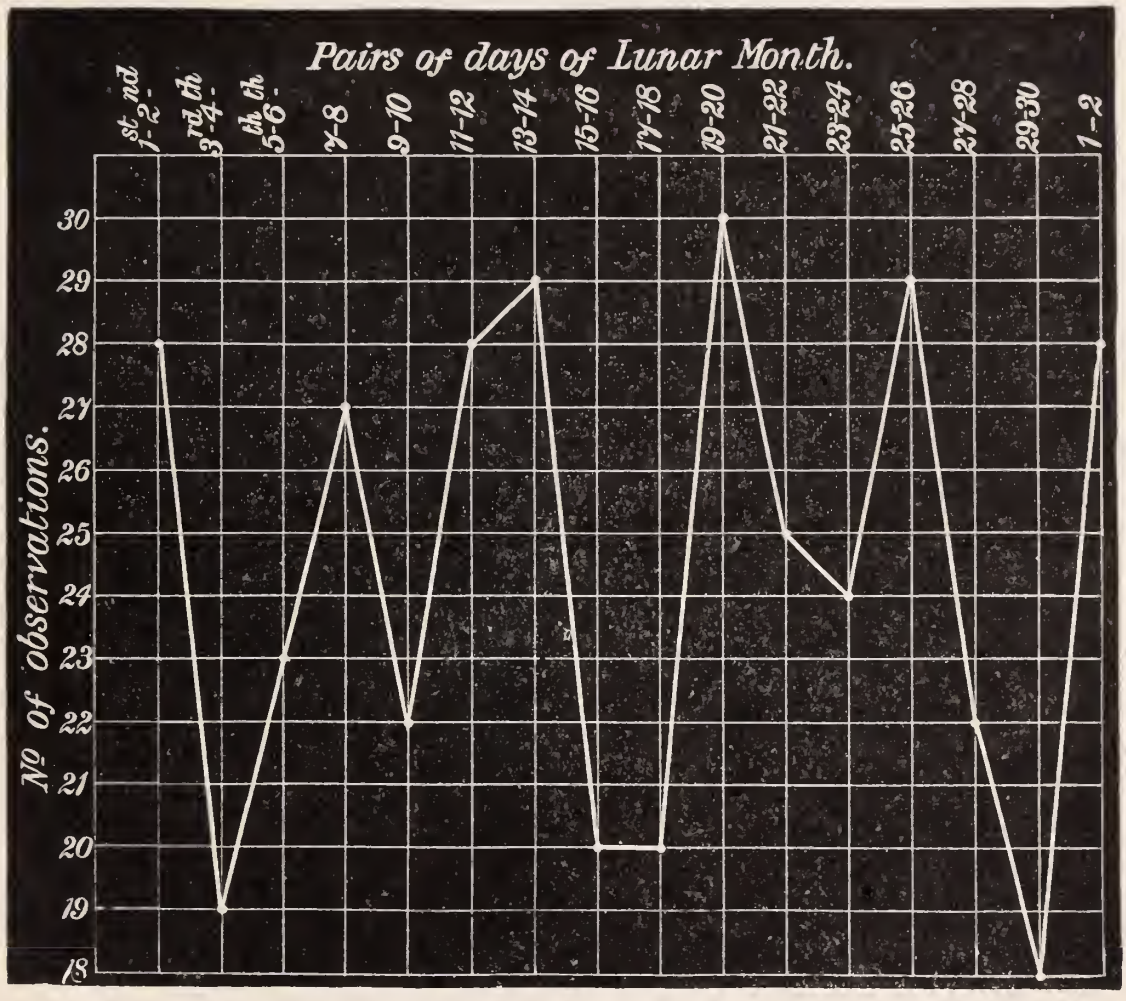

CHART X.—Curves of Lunar-monthly Rhythm as Smoothed by taking Pairs of Days.

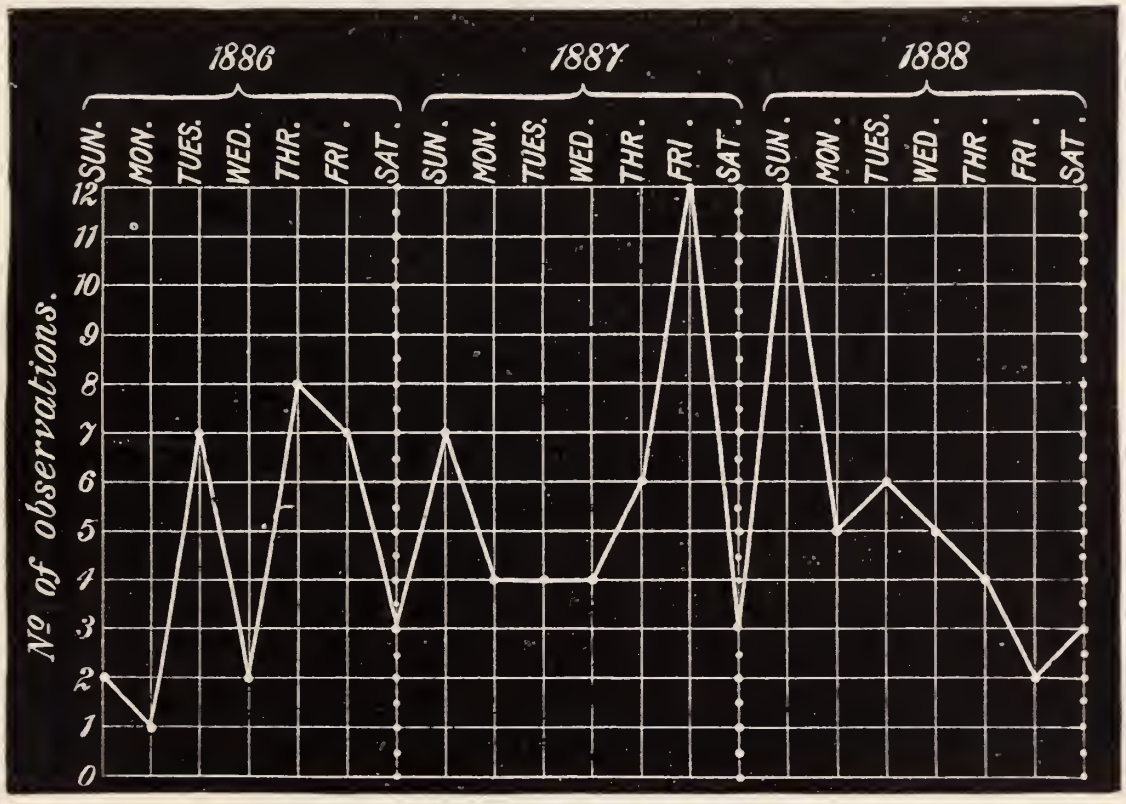

CHART XIA.—Weekly Rhythm of Male Sexual Period.

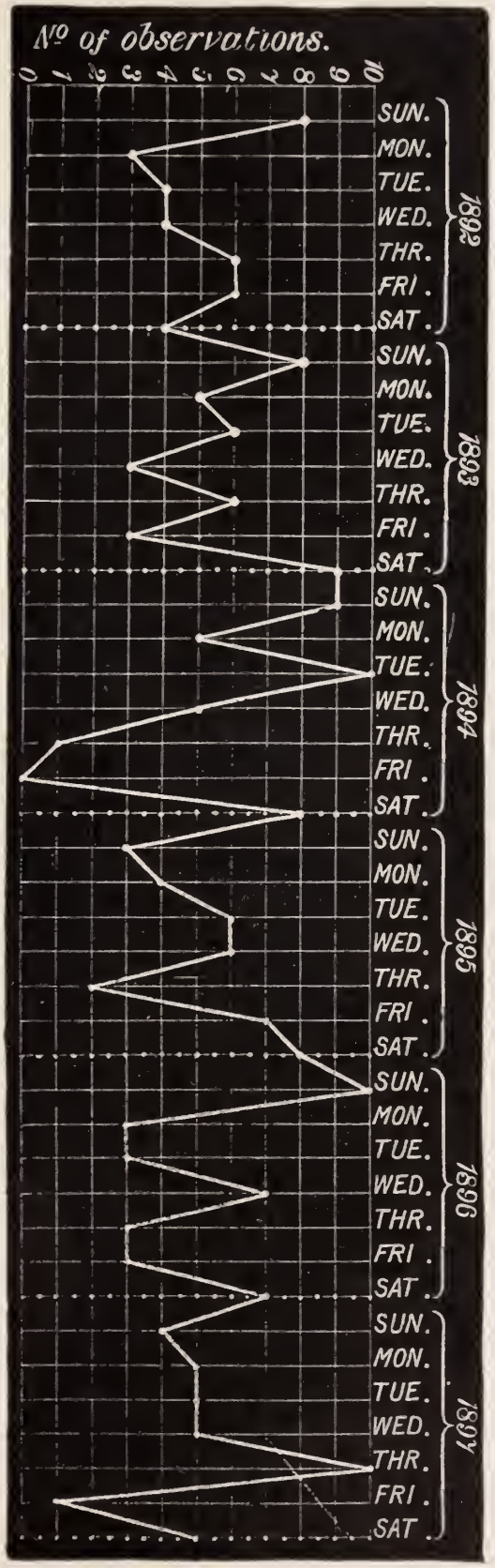

CHART XIB.—Weekly Rhythm of Male Sexual Period.

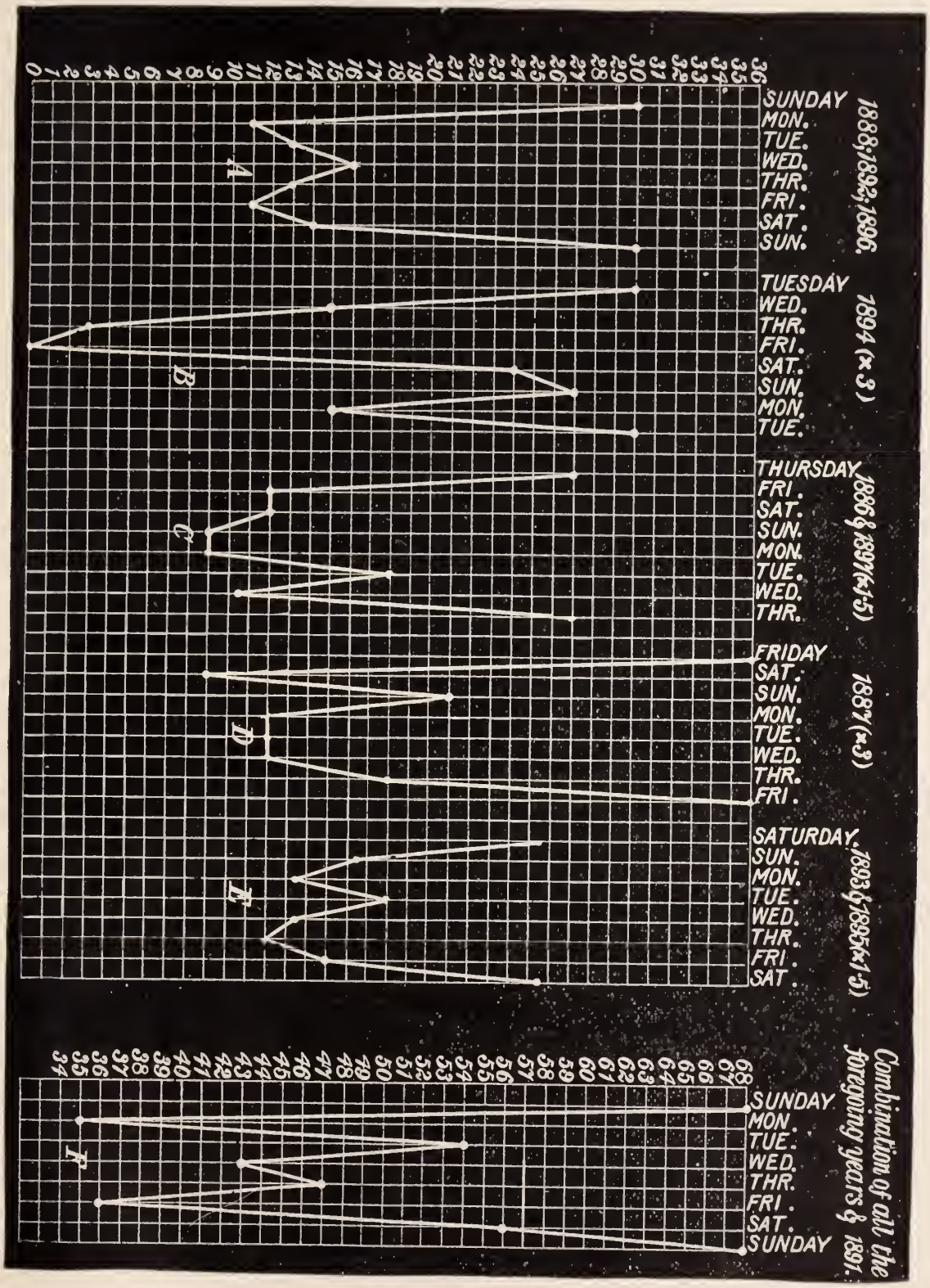

CHART XII.—Weekly Rhythm of Male Sexual Period.

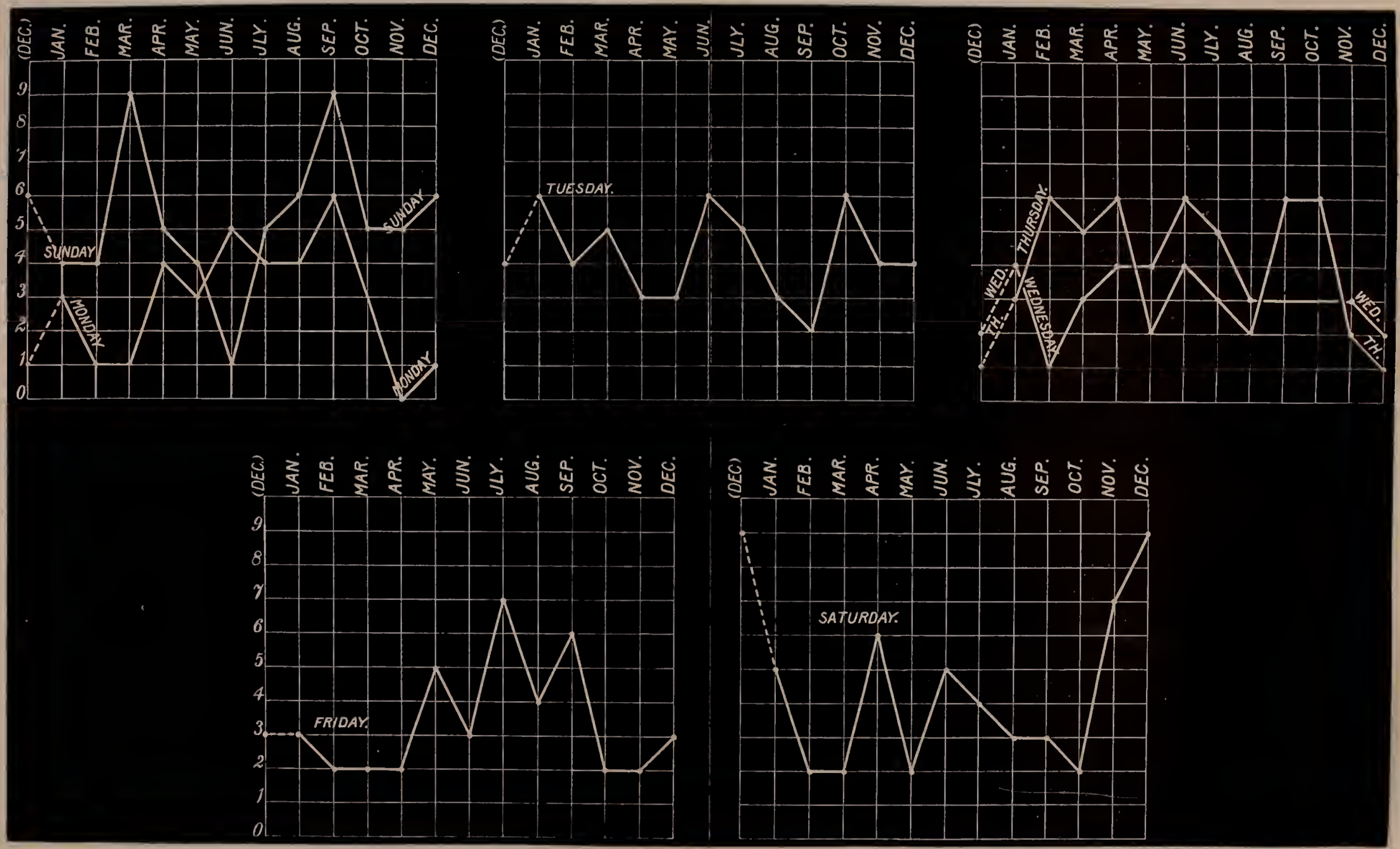

CHART XIII.—Joint Weekly Rhythm of Male Sexual Period, years 1886, 1887, 1888, 1892, 1893, 1894, 1895, 1896, 1897 combined.